IICEM

Initiatives Intégrées pour la Croissance Economique au Mali

MALIAN SHALLOT VALUE CHAIN STUDY

Regional Export Prospects









July 2008

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TABLE OF CONTENTS

		Page
EXECUTIVE SUMMARY		**iii**
Acknowledgements		v
List of Acronyms		vii
Map of Mali		viii
I.0	**Introduction**	**1**
2.0	**Mali - The Competitive Landscape**	**3**
2.1	Challenges Ahead	3
2.2	Sizing the Competition	4
2.3	Enhancing Mali's Competitiveness	5
3.0	**Shallot Value Chain Context**	**7**
3.1	Background	7
3.2	Mali's "Petit Oignon	7
3.3	Production	9
3.4	Storage	11
3.5	Processing	12
3.6	Internal Marketing	13
4.0	**Sub-Regional Export Prospects**	**17**
4.1	Overview	17
4.2	Market Profiles	19
	Guinea	19
	Cote d'Ivoire	22
	Burkina Faso	25
5.0	**Conclusions**	**29**
5.1	Key Assumptions	29
5.2	Key Findings and Recommendations	29

TABLES AND FIGURES

Figure 3.1 – Mali Shallot Supply Chain	9
Table 3.2 – Fresh Shallot Production in Bandiagara Circle	10
Table 3.3 – Production Costs for Fresh Shallots, Dogon Plateau	10
Table 3.4 – Seasonal Cycles in Mali's Primary Shallot Production Zones	11
Figure 3.5 – Shallot Supply Chain	14
Figure 3.6 – Shallot Seasonal Availability	14
Figure 3.7 – Retail Price CFA/kg Bamako Market, 2006	15
Figure 4.1 – Exports of Onions/Shallots, 2006	17
Figure 4.2 – Target Markets	18
Table 4.3 – Wholesale Marketing Costs Costs for Fresh Shallots, Seguiri	21
Table 4.4 – Wholesale Marketing Costs for Fresh Shallots, Abidjan	24

LIST OF ANNEXES

List of Stakeholders 33
References 39

EXECUTIVE SUMMARY

This value chain study focuses on an analysis of constraints and opportunities related to exports of Malian shallots into the sub-region. International markets were considered as beyond the scope of this study. The study sheds light on a number of competitveness gaps in Mali's shallot value chain, many of which are systemic to the country's rural economy and can only be addressed effectively at the policy level. The study also identifies specific market opportunities and near-term interventions with scope to increase Mali's shallot sub-regional exports in coming years.

Mali is by far the largest producer and by all acounts the only exporter of shallots in West Africa. Despite a near absence of state intervention, Mali's annual production continues to grow as more producers take up or expand their cultivation of shallots, an activity that offers higher margins relative to other horticultural products. The above dynamics combined with Mali's low-cost labor, favorable climatic conditions, and relatively good irrigation networks place Mali at a competitive advantage. Based on a series of rapid market assessments, this study identified Guinea and Cote d'Ivoire as sub-regional regional markets with the strongest existing demand for Malian shallots and potential for growth. However, myriad factors at the levels of production, conservation and marketing serve to constrain Mali's access and will need to be addressed if Mali is to benefit more fully from export prospects identified by this study. Among such constraints are the following:

- Growing competition from regionally produced and imported onions dampen demand for Malian shallots among consumers in the sub-region.
- Confusion and lack of awareness in the marketplace with regard to shallots and their unique culinary qualities as distinct from onions further limits demand.
- Lack of sufficient storage and processing capacity hinders producers' ability to better regulate market supply and increase their incomes.
- Limited availability and frequent breakdowns of transport trucks increases marketing costs, risks related to spoilage and income loss among traders.
- Lack of extension support and absence of quality standards results in inferior product quality, lower yields, and higher production costs and rates of spoilage.
- The informal nature of relationships and weak organizational capacity that prevails across the supply chain restricts formal credit access among value chain actors and related growth opportunities.

In efforts to address these and other challenges while maximizing sub-regional export opportunities identified during stakeholder consultations, this report offers the following recommendations:

1. Focus on establishing new market linkages and strengthening existing marketing networks identified by this study in Kankan and Seguiri in Guinea as well as in Abidjan, Cote d'Ivoire.
2. To mitigate competitive impact of growing onion penetration on shallot demand, organize promotional efforts to enhance consumer awareness of shallots and their unique culinary attributes.

3. In cooperation with PCDA and other development partners, facilitate the adoption of quality standards that will enhance product value and reduce risks.
4. Recognizing the importance of FAC-GEST and ULPTE as primary actors in the Dogon Plateau, provide support in evaluating their organizational weaknesses and strengthening their internal marketing capacity.
5. While acknowledging its limited near-term market potential, facilitate EST promotional activities in collaboration with supermarkets, luxury hotels and restaurants in Conakry, Abidjan, and Ouagadougou.

ACKNOWLEDGEMENTS

The author would like to express his gratitude to all those who provided input on this study. Two field missions were conducted between April and June 2008 to meet with shallot value chain stakeholders and solicit the information necessary to complete this study. These included farmers, producer and processing groups, traders, transporters, research institutions, input suppliers, firms, financial institutions, representatives of professional organizations, and government officials in the Dogon Plateau, the Office du Niger zone and Bamako, as well as end-market actors in Burkina Faso, Cote d'Ivoire and Guinea.

The study has benefited in particular from input provided by David Sagara (APH, Bandiagara), Sékou Samaké (IER, Mopti), Mobibo Samaké (PCDA, Ségou), Kadiatou Kanté (Coopérative Benso, Niono), Hamidou Bagayoko (FASO JIGI, Ségou), Salif Diarra (OMA, Bamako), Djibril Dramé (PCDA, Mopti), Boubacar Fofana (REGOSA, Conakry), Rosali Boti (COCOVICO, Abidjan), Ben Omar Touré (CCIAG, Conakry) and Marie Dje Bi (COCO-Oignon, Abidjan).

This study was prepared by Stephen P. D'Alessandro of The Sahel Group, under sub-contract to *ACDI-VOCA,* at the behest of USAID-Mali's *Initiatives Intégrées pour la Croissance Economique au Mali* (IICEM) project. The author would like to thank ACDI/VOCA staff in Washington, DC and Abt Associates project staff in Bamako for providing the necessary logistical and administrative support that made the study possible. Special thanks are extended to Katie Sagoba whose dedication and tenacity in the field greatly benefited this study.

The opinions expressed in this study are those of the author and do not necessarily reflect those of USAID Mali or the Government of Mali.

LIST OF ACRONYMS

ACDI	Agence Canadienne pour le Développement International
AMELEF	Association Malienne des Exportateurs de Légumes et Fruits
APH	Action de Promotion Humaine
APROFA	Agence pour la Promotion des Filieres Agricoles
BDM	Banque de développement du Mali
BNDA	Banque Nationale de Développement Agricole
CAE	Centre Agro-entreprise
CAFON	Cooperative d'Artisans et Forgerons de l'Office du Niger
CCIAG	Chambre de Commerce d'Industrie et d'Artisinat de Guinée
CEDEAO	Communauté économique des États d'Afrique de l'Ouest
CIDA	Canadian International Development Agency
COCO Oignon	Cooperative des Commercants d'Oignon
COCOVICO	Cooperative des Commercants de Vivriers de la Commune de Cocody
ECOWAS	Economic Community of West African States
EST	Echalote Séchée en Tranches
FAO	Food and Agriculture Organisation
FAC-GEST	Formation et l'Appui Conseil en Gestions de l'Echalote Séchée en Tranche
FDI	Foreign Direct Investment
GOM	Government of Mali
GTZ	Gesellschaft für Technische Zusammenarbeit
IER	l'Institute d'Economie Rural (Institute of Rural Economy)
IICEM	Initiatives Intégrées pour la Croissance Economique au Mali
IRTG	Improved Road Transport Governance
MOA	Ministry of Agriculture
MDRE	Ministre du developpement rurale et de l'environnement
NAPD	New Partnership for Africa's Development
NGO	Non-Govermental Organization
OMA	Observatoire du Marché Agricole
ON	Office du Niger
PO	Producer Organization
PACCEM	Projet Appui à la Commercialisation des Céréales au Mali
PAFA	Projet d'Appui aux Filieres Agricoles au Mali
PASAOP	Programme d'Appui aux Services Agricoles et aux Organisations Paysannes
PCDA	Projet de la Compétitivité et Diversification Agricoles
PDCO	Promotion pour le Developpement et Observatoire du Changement
PVAPD	Projet Vulgarisation Agricole au Plateau Dogon
RCVECA	Réseau des Caisses Villageoises d'Epargne et de Crédit Agricole
REGOSA	Reseau Guineen des Operateurs Economiques du Secteur Agro-Alimentaire
UCOBAM	Union Des Cooperatives Agricoles et Maraicheres du Burkina
RETE	Association de Techniciens pour la Solidarite et Cooperation Internationale
SLACAER	Service local d'appui-conseil de l'aménagement et de l'équipement rural
ULPTE	l'Union Locale des Producteurs et Transformateurs d'Echalote
USAID	United States Agency for International Development
WAEMU	West African Economic and Monetary Union


MALI
National capital
Regional capital
Town, village
Major airport
International boundary
Regional boundary
Main road
Other road
Track
Railroad
0 100 200 300 km
0 100 200 mi
ALGERIA
MAURITANIA
MALI
Taoudenni
Poste Maurice Cortier
Bordj Mokhtar
TimÈiaouÔne
Tessalit
Ti-n-Zaou,tene
In Guezaam
Aguelhok
Assamakk
TOMBOUCTOU
KIDAL
Kidal
Tidjikdja
Aleg
Rosso
KaËdi
Kiffa
'Ayo˜n el 'Atro˜s
NÈma
Tombouctou
(Timbuktu)
Bourem
GAO
R,s el M
Goundam
Gourma-
Rharous
Gao
MÈnaka
Ansongo
AndÈramboukane
SÈlibabi
Aourou
Nioro
du Sahel
Nara
Nampala
Douentza
Tahoua
NayÈ
Kayes
DiÈma
Mourdiah
Mopti
MOPTI
Bandiagara
Oullam
NIGER
Birnin
Konni
Madaou
SENEGAL
Tambacounda
KAYES
KOULIKORO
Niono
Djibo
Dori
TillabÈri
BafoulabÈ
SEGOU
DjennÈ
Tera
Niamey
Ouahigouya
Kita
SÈgou
San
Dosso
Sokoto
Koulikoro
Tougan
Kaya
BogandÉ
BURKINA FASO
Koundara
Kati
Bamako
CAPITAL
DISTRICT
Koutiala
DÈdougou
Ouagadougou
Diapaga
Birnin Kebbi
Gummi
Balaki
Koudougou
Fada-
N'gourma
Kamba
Gaoual
Kombissiri
Tenkodogo
Siguiri
Bougouni
Sikasso
Bobo-
Dioulasso
Koko
LabÈ
Dinguiraye
SIKASSO
DiÈbougou
LÈo
PÙ
NIGERIA
G U I N E A
Yanfolila
KolondiÈba
Navrongo
BENIN
Djougou
Kontago
Banfora
Kainji
Reservoir
Kankan
Gaoua
GHANA
Wawa
CÔTE D'IVOIRE
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1. INTRODUCTION

In support of the Government of Mali's current strategy, as outlined in the Agricultural Orientation Law of October 2005, to further the development and increase the competitiveness of key agri-based sectors, USAID/Mali launched in 2007 *Initiatives Intégrées pour la Croissance Economique au Mali (IICEM)*. This three-year program targets five of thirteen sectors the GOM has identified as priorities; among them rice, mangoes, potatoes, shallots and tomatoes. IICEM sector interventions are targeted to address efficiencies and maximize opportunities at each stage of the value chain in order to enhance productivity and create income among market actors while promoting economic growth and poverty reduction.

Commissioned by IICEM, the present study focuses exclusively on the shallot value chain. While identifying constraints and opportunities and the interests of key actors[1], the study aims more broadly to: 1) analyze the value chain's competitiveness; 2) identify and profile key export markets; 3) identify specific market opportunities; and 4) make recommendations on an appropriate strategy that will lead to future growth of Malian shallot exports to the sub-region. The study places particular emphasis on assessing the strengths and weaknesses of internal and external marketing structures that impact value chain competitiveness.

Developing an export growth strategy requires a thorough understanding of the supply chain's dynamics. However, the informal nature of relationships that dominates across Mali's shallot supply chain obscures a clear picture, and thus, a better understanding of its potential for growth. Further, statistical information with regard to production, demand, trade flows, input costs, etc. is often aggregated with onions or is altogether unavailable. Widespread confusion among global consumers as to what constitutes a shallot further complicates analysis. In the United States, shallots are often called scallions while Australians refer to them as spring onions. In West Africa, shallots are almost universally referred to as "les petits oignons," French for "little onions."

The present study seeks to answer, *inter alia*, the following questions:

1. Who are the key supply chain actors and what interests influence their decision-making?
2. How are producers, traders, distributors, and other actors organized and how can their organizational capacity be strengthened?
3. What do existing distribution networks look like and how efficient are they in managing the flow of product? How can they be improved?
4. What incentives need to be put in place to encourage producers to invest in horizontal and vertical linkages that could strengthen their position within the supply chain and enhance their income?
5. What are specific market access requirements and/or product quality norms in the marketplace?
6. How significant are cross-border flows into the sub-region? Which are the biggest demand markets? Which have most potential for growth, and why? What needs to be done to facilitate new exports?
7. What activities can the GOM, donor agencies, NGOs and others pursue to facilitate the value chain's development?

[1] Actors are those involved in producing, processing, trading or consuming a particular agricultural product. They include direct actors which are commercially involved in the chain (producers, traders, retailers, consumers) and indirect actors which provide financial or non-financial support services, such as bankers and credit agencies, business service providers, government, researchers and extensionists.

For logistical and organizational purposes, it was decided that the study and related fieldwork would be broken up into two phases. The first phase in April 2008 involved a preliminary fact-finding mission to Mali to solicit input from a wide range of stakeholders including producers, producer organizations, agricultural support and marketing associations, NGOs, donors, financial and research institutions, input suppliers, and wholesalers operating in key domestic markets and production zones, including Bamako, Mopti, Bandiagara, Segou and Niono. According to the methodology adopted, the information obtained during these domestic consultations would serve to inform and guide the direction of a broader regional stakeholder consultative process, with an objective to validating initial findings and further exploring regional export prospects. Thus, the second mission was organized in May/June 2008 to Burkina Faso, Cote d'Ivoire and Guinea.

This report offers a discussion of the study's findings. The study is by no means exhaustive and it is anticipated that additional studies will follow that will build upon this study to further develop our understanding of the shallot value chain. Information obtained from consultations was supplemented by telephone interviews and a review of secondary materials. Although scarcity and validity of market information limited quantitative analysis, the first-hand accounts of market actors on which this study is largely based offer some valuable insights with regard to ongoing constraints and future prospects for the value chain's development.

It is hoped that the study's findings and recommendations will help USAID/Mali and IICEM to better identify the optimal strategy and appropriate allocation of resources moving forward that will affect the most immediate and meaningful impact on sub-sector growth. In addition, it is hoped that the study will become a useful resource for policy makers, NGOs and other donors involved in supporting the value chain's development and will offer a fresh perspective with regard to regional export prospects for Malian shallot that heretofore were little understood.

2.0 MALI - THE COMPETITIVE LANDSCAPE

The rural sector continues to dominate Mali's economy, accounting for more than 80 percent of the country's population of 13.5 million and creating employment for about three-fourths of its labor force. Agriculture production alone contributes more than 40 percent to GDP and represents more than two-thirds of export revenues (World Bank, 2007). In recent years, the agricultural growth rate has improved, recording 4.3 per cent in 2007, much of that growth driven by an increase in food production (OECD, 2008).

In terms of soil fertility, rainfall and irrigation, Mali has considerable agricultural potential, particularly in the Office du Niger (ON) zone. In efforts to kickstart an economy long hampered by an over-reliance on gold and cotton exports, the Government of Mali (GOM) is pursuing, under the terms of the new agricultural orientation law of October 2005, a comprehensive strategy to improve agricultural competitiveness and diversification via modernization of agricultural production and supply chains. The objective is to eliminate obstacles to the development of commercial activities in the agricultural field in those sectors in which Mali has a comparative advantage and real export market opportunities. Through targeted investments, the GOM will look to reinforce the competitiveness of agricultural products, both traditional products such as cotton and rice, but also non-traditional, higher value products such as fruits and vegetables.

Mali's production of fruits and vegetables has nearly doubled over the last 20 years, reaching 365,000 metric tons in 2004 (FAO, 2006). Despite Mali's landlocked situation, horticultural exports have been on the rise. Between 2001-2005, Mali's horticulture export based grew by 19 percent. In 2005, the fruit and vegetable exports were valued at nearly USD 5.2 million, more than double than that of Niger and Burkina Faso (UNCTAD/WTO, 2008). Though its market share remains negligible, mango exports to Europe have been growing and recorded an increase of more than 40 percent in 2006 (CCE, 2007). Export flows of potatoes and shallots to neighbouring countries are also growing, benefiting largely from geographic proximity[2] and market niches developed in the region.

2.1 Growth Challenges

Growth in fruit and vegetable production could go a long way in improving Mali's food security situation while enhancing the health and well-being of Mali's growing population. In addition, horticulture production is a labor intensive activity that has the potential to create much-needed employment among some of Mali's most disadvantaged rural communities. The above holds especially true for women whose supplemental income from horticultural activities is typically used to cover their children's education and family's healthcare needs.

Underlying the GOM's strategy to promote non-traditional exports such as fruits and vegetables, the GOM is looking to capaitlize on some recent trends in global food production and trade that are creating new export opportunities for developing countries. Among these are the rising demand for higher value food products among consumers in the region and across the globe and a more enabling trade environment. However, the sector faces a number of constraints that will need to be addressed if Mali is to compete successfully with other developing countries both within the region and elsewhere and if the sector is to have a transformative impact on Mali's economy. Agricultural productivity in Mali remains one of the lowest in the region. From 2000 to 2003, value added per agricultural worker averaged $222 (in constant US$ 2000), well below the average of $323 for sub-Saharan Africa (World Bank, 2005*a*). Sector

[2] Mali has more than 7,000 km of common border with 7 countries.

productivity and diversification into higher value export crops has been constrained by limited extension and research services, unorganized and inadequate logistical infrastructure, and a lack of understanding with regard to market requirements.

The development of agro-processing and other agribusiness activities has to date been limited by the near absence of domestic packaging manufacturers, amid other factors (OECD/AfDB, 2005). The only domestic fruit and vegetable processing enterprise, la Société Malienne de Conserves (SOMACO), was closed down in 1998. Without processing and packaging capacity, Mali will find it difficult to meet increasingly stringent certification requirements created by EUREPGAP and the USFDA that effectively limit the access of many sub-Saharan African countries to EU and US markets.

The use of fertilizers and agricultural equipment also remains limited and only 15 percent of Mali's irrigation potential has been exploited thus far (CCE, 2007). Adoption of new irrigation technologies would greatly improve yields and contribute to expanded production for both the domestic and export markets. The World Bank estimates that if 20 percent of Malian producers adopted new irrigation technologies, the domestic market for horticultural produce would increase by between 5 and 10 percent, the export market for gum Arabic, French beans and mangoes would double, and the regional export market for potatoes and onions/shallots would increase by 33 and 50 percent respectively (World Bank, 2005*b*).

2.2 Sizing the Competition

When considering the competitive landscape, Mali benefits from its geographic position at the heart of West Africa where it shares 7,000km of common border with seven countries,[3] a distinct advantage in terms of fostering sub-regional trade. In addition, Mali's Membership in the West African Economic and Monetary Union (WAEMU), with its 70 million inhabitants, and the Economic Community of West African States (ECOWAS), representing more than 210 million consumers, gives Mali large export markets with preferential terms under regional economic integration agreements. Trade agreements among the Sahel States also offer other potential markets. Mali also enjoys privileged access to the international market. As a least developed country (LDC), Mali enjoys privileged access to the European market thanks to the ACP-EU agreements and the European Union's Everything But Arms (EBA) initiative and to the US market under the African Growth and Opportunities Act (AGOA).

However, Mali's land-locked status means that Mali remains highly sensitive to the political and economic stability of its neighbors, on whom it largely depends for access to international markets. Cote d'Ivoire's seaport handled up to 70 percent of Mali's exports until the outbreak of conflict in 2002, which severely disrupted Mali's trade. To strengthen its position and mitigate such risks, Mali has made diversifying its transport corridors a priority through the construction of routes linking itself to main West African ports like Dakar, Tema, Lomé, Conakry, Nouakchott and Cotonou, in addition to Abidjan.

According to the International Trade Center, Mali's horticulture exports enjoyed an annual average growth rate of 19 percent from 2001-2005. By most measures, Mali has a favorable climate for horticulture, but then so do its regional neighbors. Cote d'Ivoire, Senegal, and Burkina Faso compete with Mali in mango exports. Also, Burkina Faso, Morocco, and Senegal produce large quantities of green beans and Sudan, Chad, and Niger can also grow gum arabic (MIGA, 2007). Growing onion production in Niger and Burkina Faso in particular, as well as imports from The Netherlands and Morocco compete indirectly in sub-regional markets with Malian shallots. Many of Mali's regional neighbors in the region possess superior infrastructure and consequently benefit from higher levels of FDI, which has largely bypassed Mali's agro-sector. Road and rail networks remain inadequate, although some progress has been made in recent

[3] Algeria, Burkina Faso, Côte d'Ivoire, Guinea, Mauritania, Niger and Senegal.

years, notably with the plan to privatize the railroad. The development of a modern communications network – both in size and quality – is indispensable for a landlocked country like Mali. In addition, the high cost of utilities, particularly electricity, also discourages investors.

2.3 Enhancing Mali's Competitiveness

Public sector investments in recent years have the potential to improve Mali's standing and enhance competitveness of its horticulture sector. A number of existing and new projects are bringing much-needed upgrades to Mali's infrastructural base and human resource capacity. Among these are the agricultural services and producer organisations support programme (PASAOP); the rural development support programme in the Mopti region; the programme for agricultural competitiveness and diversification (PCDA); the rural community support project (PACR); the northern regions investment and rural development programme; and the Baguinéda irrigation scheme modernisation project (OECD, 2008). The following are a few examples of recent and/or planned investments:

- A major component of the PCDA project mentioned above will be the construction of rural roads to end rural isolation and make market access more fluid.
- MCC's USD 234 million Alatona irrigation project seeks to develop 16,000 hectares of newly irrigated lands, representing an almost 20% increase of "drought-proof" agriculture in the Office du Niger area.
- The Aga Khan Foundation through its Fund for Economic Development (AKFED) is majority partner in Embal-Mali, which was established in 1999 to manufacture polypropylene woven bags and other synthetic packaging.
- The Ndjamena-Dakar Highway, a project of ECOWAS and the AU's NEPAD, with funding from the AfDB, has in recent years vastly improved the flow of goods between Bamako and Senegal's port city of Dakar.
- In 2003, a Canadian group, CANAC-GETMA, secured a 25-year concession from the Governments of Mali and Senegal to upgrade and run the Bamako-Dakar rail line.

3.0 SHALLOT VALUE CHAIN CONTEXT

3.1 Background

Shallots are appreciated as a refined and authentic ingredient of cuisines worldwide and have long been an essential component of many Oriental and European dishes. While they are often thought to be another variety of onion, shallots are actually a species of their own within the allium family, which also counts the onion, chives, and garlic as members. Not to be confused with onions, shallots are sweeter than onions with a greater piquancy. Their higher sugar content also means that they caramelise more easily than do onions.

Important distinctions between onions and shallots are not only gastronomic. Shallots grow in clusters, where separate bulbs are attached at the base and by loose skins. They have a tapered shape and a fine-textured, coppery skin. Shallot production is far more labor-intensive than onion cultivation as even commercially raised shallots must be farmed by hand. Bulbs must be planted perfectly straight in the soil, and no machine as yet has been developed that is able to distinguish a small dirt clod from a baby shallot. French shallot producers claim that it takes roughly three times as much effort to produce a hectar of shallots as it does to produce a hectar of onions. This partly explains why onions can be found in abundance in markets worldwide, while availability of the humble shallot remains largely limited to niche markets where resulting price differentials have less of an impact on demand.

Due to statistical limitations and the informal nature of regional markets discussed earlier in Section 1, this study is unable to offer a detailed picture of global shallot flows. Nonetheless, it is clear that demand for shallots is on the rise, particularly in developed countries, where consumer interest in gourmet and exotic foods is a growing phenomenon. In the UK, shallot growers are struggling to keep up with growing demand (Cost Sector, 2008). Sales in the first quarter of 2008 were up over 13% by volume on the same period last year. According to UKShallot.com, the industry's marketing body, the shallot market is growing rapidly and penetration of the vegetable into UK households has doubled in the past two years.

Most shallots sold in the United States are imported from France, where they have been cultivated since Charlemagne's time and where per capita consumption at 580g is among the highest in the world. Brittany, which grows 75 percent of France's more than 40,000 tons each year, is among the world's largest producers. Exports to America from France have increased from none in 1980 to 4,525 tons last year, according to the French National Center for Statistical Research. Shallots are also grown widely in Holland, Denmark, China, the USA, Canada and several countries across Southeast Asia, including China. Thailand and Indonesia are believed to be the largest producers of shallots, at 800,000 and 250,000 tons respectively (Agroligne, 2006). There is wide variation in terms of varieties. The shallots cultivated in Asia tend to be small, irregularly shaped and have red skins. Danish and Dutch shallots are often yellow-skinned. In France there is considerable regional variation resulting in a wide range of different shaped shallots from round to long and thin.

3.2 Mali's "Petit Oignon"

Cultivated since the pre-colonial era, shallots have become an important cash crop in Mali. Few other garden-variety vegetables are so tightly woven within the socio-economic fabric of the country, owing to their popularity among rural farmers, many of who depend on shallot cultivation for supplemental income. Today, shallots (known locally and across the sub-region as "petit oignon," French for "small onion") are a central ingredient in Malian cuisine and can be found in most traditional sauces, which suggests that

shallots also play a vital role in improving the nutritional and overall health of Malian households. Relatively cheap labor, favorable climatic conditions, and ready access to Niger River water are all factors that have positioned Mali as the premier shallot producer in West Africa. In recent years, market reforms and well-placed GOM and donor investments have significantly increased production levels and enhanced prospects for growth.

Recognizing opportunity, the GOM has identified the shallot value chain as a development priority for its perceived potential to contribute further to the growth of Mali's rural sector and become a key driver for income growth and poverty reduction. While strong domestic consumption has kept apace with production levels that have more than doubled since 2001, ongoing genetic research and the introduction in recent years of new storage and processing technologies hold the promise of further expanding output, potentially positioning Mali to become an important supplier of fresh and dried shallots to sub-regional markets. Yet, for this to happen, a number of constraints, many of which are systemic to Mali's rural economy, need first to be addressed.

Malian shallots face many of the same challenges encountered by other horticulture commodities, most notably:

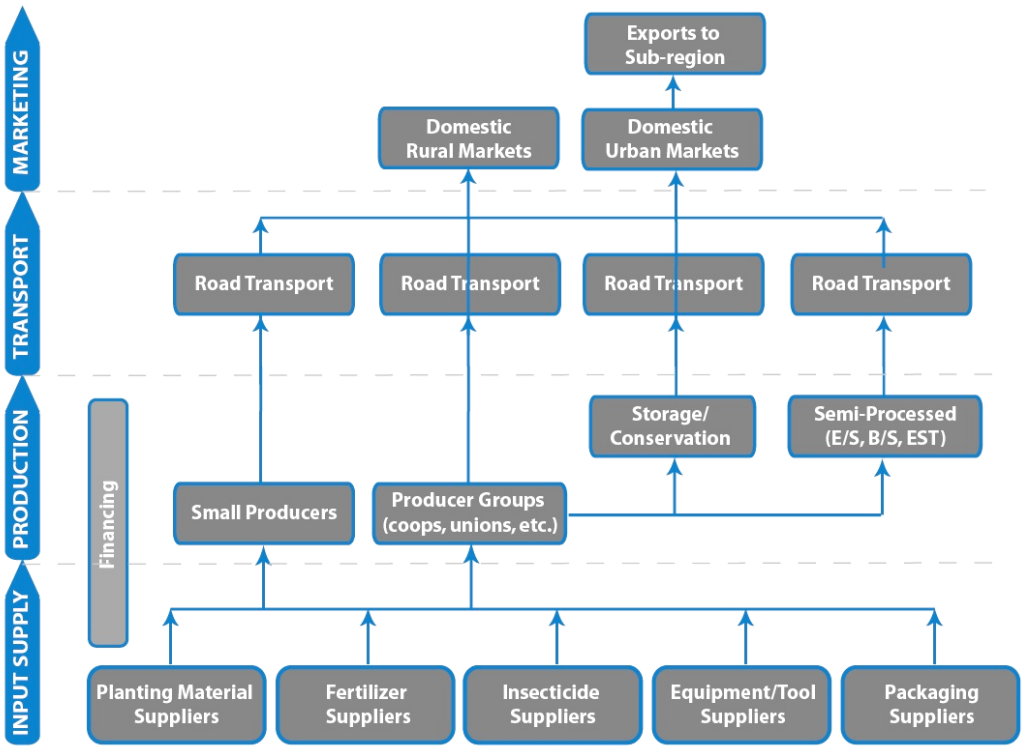
- Peak harvest season coinciding with a steep decline in market prices as large quantities of freshly harvested produce hit the market simultaneously, resulting in falling prices, high incidences of spoilage and lost revenue;

- Insufficient access to storage and processing capacity hamper the ability of producers and traders to gain better control over product supply; and

- Inadequate transport infrastructure and weak organizational capacity of producer organizations result in marketing efficiencies that further weaken overall value chain competitiveness.

This next section will look at various functions in the shallot value chain (see Figure 3.1) and the key actors who exercise those functions.

Figure 3.1 - Malian Shallot Supply Chain



3.3 Production

While reliable statistics are scarce, most estimates place Mali's shallot production at 90,000-150,000 tons per annum. These estimates are often based on rough approximations of the land area currently under cultivation in the three major production zones and expected yields. According to the FAO, total production in 2006 was approximately 105,000 tons, 60 percent of which was cultivated in the Office of Niger, 37 percent in the Dogon Plateau, with the remainder mostly grown in garden tracts in and around Bamako. Production estimates from the Ministry of Agriculture for the same year are less conservative at 140,000 tons. While a recent study by PAFA estimated that total production in 2005/2006 reached 211,306 tons (ACDI, 2007).

By all accounts, shallot production in Mali has grown steadily since the 1960s, and has more than doubled since 2001 (FAO, 2008). While production in the Dogon Plateau, covering an estimated 90 percent of available gardening plots has leveled off in recent years at around 37,000 tons (see Table 3.2), production in other regions, particularly in the Office of Niger, is increasing rapidly. In terms of land area under cultivation, shallots are by far the most important horticultural crop in the Office du Niger, representing nearly two-thirds of the total. During the period 1995-2003, the total acreage under cultivation in the Office du Niger grew by more than 182 percent, with a total production of more than 107,000 tons (PACCEM, 2004).

Table 3.2 – Fresh Shallot Production in Bandiagara Circle

Year	Ha (1,000s)	Total Production, fresh (tons/ 1,000s)	t/ha
2002	1.18	36.23	31
2003	1.01	29.66	29
2004	1.28	39.15	31
2005	1.27	38.50	30
2006	1.28	38.20	30
2007	1.24	36.360	29

SOURCE: FAO, 2007

Despite evidence of significantly lower yields relative to those of the Dogon Plateau (30 tons/hectare), production in the Office of Niger has strong potential for growth as vast tracts of irrigated land geared toward rice production during the June–December growing season have yet to be exploited. Research suggests that the observed gap in yields between the two major production zones is largely a function of differences in water availability and farm management techniques employed.

The majority of shallots in Mali are cultivated by rural farmers on relatively small garden plots measuring on average approximately 20m x 20m (or approximately a tenth of an acre). Shallot cultivation is extremely labor intensive. Farmers must water their fields by hand for several hours in the morning and evening. The majority of growers water their crops by hand using calabash bowls or buckets, which discourages the cultivation of larger plots. According to a recent study commissioned by PCDA, 98 percent of producers in the Dogon Plateau rely on manual watering, while only 2 percent practice irrigation. Though higher in the Office of Niger rice production zones, usage of modern irrigation technology overall remains negligible.

Given relatively limited costs of production, shallot production appears to offer a reasonably substantial financial and economic benefit to producers (see Table 3.3). In the Dogon Plateau, for example, producer margins estimated at 40 CFA are on average about one-third of farm gate prices. Based on the average garden size and the MOA's yield estimates of 20 tons/hectare, a shallot producer has the potential to net more than 21,000 CFA at the end of each harvest. This partly explains why shallot production has become such an important activity to Mali's rural economy. Revenues generated from their sale enable farmers to provide for their families' basic needs throughout the year, including food, medical care, education and clothing.

Table 3.3 – Production Costs for Fresh Shallots, Dogon Plateau

Description	Costs (CFA/kg)
Planting Materials	60
Watering Materials	5
Organic Fertilizers	
Chemical Fertilizers	1.8
Labor (750 CFA/day x 90 days x 5 workers/day)	11
Total Production Costs	**78**
Producer Margin	42
Farm Gate Price	**120**
Trader Margin	30
Final Market Price	**150**

SOURCE: FAO, 2007

Shallots growers in the Dogon Plateau benefit from one to three harvests a year, depending largely on availability of water. The first harvest begins in September at the end of the rainy season and typically runs through December. The second harvest is January-March and the third harvest, which producers mainly rely on to secure next season's planting materials, is March-June. In Office of Niger, there is only one harvest from January-June as shallot production only occurs in the "off-season" when rice, the region's most important cash crop, is not under cultivation (See Table 3.4). Although harvest times vary from year to year, typically shallots from the Office of Niger begin arriving to market around January or February, competing directly with those from the Dogon Plateau, driving down market prices and encouraging many Dogon producers to focus on conservation and processing activities to minimize losses due to spoilage.

Table 3.4 – Seasonal Cycles in Mali's Primary Shallot Production Zones

Production Zone	J	F	M	A	M	J	J	A	S	O	N	D
Dogon Plateau												
Office du Niger												

Season #1 Season #2 Season #3

From March to June, producers focus on securing and placing in storage either in granaries or larger communal warehouses sufficient planting materials for the next season. While some producers draw from their own production, the majority sources their bulbs by purchasing them on the open market, which often results in a spike in prices as competition for planting bulbs leads to shortages of fresh shallots. Other inputs such as organic fertilizer are acquired through barter or cash by grower associations at the village level, as are pesticides. Since shallots require little pesticide, their application is extremely limited.

Overall, the input supply chain is essentially local in character in both the Plateau and Office of Niger regions, with little to no use of formal credit and the virtual absence of private sector participation. Informal arrangements allowing for delayed payment or discounts for bulk purchase are more common. Financial institutions such as BNDA, FCRMD, Nyesigiso and BMS appear to do a relatively good job in servicing producer credit needs typically via seasonal loans to farmers unions or directly to village-level cooperatives. In some areas, there is high incidence of non-payment.

3.4 Storage

Fresh shallots have a relatively limited shelf life and spoilage remains a major constraint. In the past, fresh shallots not sold immediately after harvest and those set aside for use as planting material were stored in bulk either within the household or in traditional village storehouses designed primarily for grain storage. These banco structures vary in size depending on a \family's size and are typically equipped with small openings for access and minimal ventilation. Larger communal stocks were often placed in traditional village warehouses that were designed to serve a range of storage functions but which offered few advantages for preserving shallots. Such practices resulted in high rates of product spoilage, as much as 70 percent in extreme cases. Spoilage rates largely depend on product quality and storage conditions.

More recently, producer organizations with the support of their NGO partners have been experimenting with improved stockhouse designs that more directly address the specific conservation needs of fresh shallots. The new banco storehouses and village-level warehouses are equipped with regularly spaced

shelving where the produce can be evenly stacked and with symmetrically placed openings that maximize cross-ventilation. Other methods include suspending bundles of 15-20 bulbs from covered hangars that impede direct sunlight and rain but allow for greatly improved ventilation. Though pilot efforts and associated studies remain ongoing, early evidence suggests that some of these methods have resulted in encouraging reductions in spoilage, by as much as half over the long-term.

Complementing such efforts, L'institut d'économie rurale (IER), the main contracting authority for research in Mali, has assumed a pioneering role in developing innovative solutions to supply chain constraints related to production, conservation, and processing. In Mopti, IER is working with 3 village cooperatives on experiments with new woodless banco storehouses that are designed to offer improved airflow and reduce interior tempartures. In Niono, IER has been conducting research on shallot cultivars to identify those which are advantageous in terms of yields, quality and storability. IER's work is being supported in collaboration with the MOA's Agricultural Competiveness and Diversification Porgram (PCDA) and the Agricultural Supply Chain Support Project (PAFA). Unfortunately, this study was unable to benefit from IER input on their ongoing genetic research due to time constraints.

3.5 Processing

In addition to fresh shallots, several types of semi-processed shallot products are availbale on the market, with availability and demand for each depending on the consumption market's proximity to Mali's production zones and the time of year. The most widely marketed are the following:

1. "Écrasée/sechée" - shallots are first crushed, then sun-dried in the traditional manner,;
2. "Écrasée/séchée en boule" - shallots are first crushed, then sun-dried, ground down, and mixed with other local ingredients to form dried shallot balls;
3. "Broyée/séchée" - shallots machine crushed, then dried in solar drying panels that increase air-flow and reduce contaminants and debris;
4. "Échalote séchée en tranches" (EST) - shallots pealed, washed, sliced by machine, and dried in improved solar heaters.

Dry processing has long been used in Mali as a method for reducing losses related to spoilage and extending the shelf life of fresh produce, including shallots, tomatoes, peppers and okra, among others. Drying preserves foods by removing enough moisture from food to prevent decay and spoilage. In addition to the above benefits, drying can also help in stabilizing market prices for fresh produce by reducing availability in the marketplace and in enhancing value add and producer income. Though processing has the potential to play an important role in the development of the shallot value chain, it is estimated that today less than 10 percent of Mali's total production is processed into dry shallots and related byproducts.

Traditional drying methods for shallots consist of cutting or crushing the bulbs in a pestle before spreading them out on mats in the sun to dry. After several days, the dried produce is ready to be bagged and sold or processed further. Dried shallot products processed in this fashion are typically of low quality due to a high incidence of contaminants (dust, twigs, etc.) and are of lower nutritional value. These include *Juba mugu* (crushed/dried shallots) and *Jaba kuruni* (balls of crushed/dried shallots mixed with other ingredients), the latter widely appreciated across Mali and to a growing extent in neighboring markets, for its unique fermented flavor and as a low-cost alternative to fresh shallots. Anecdotal evidence suggested growing demand for crushed/dried shallots and crushed/dried shallot balls in Cote-d'Ivoire and Guineau, in particular. A group of traders in Bamako reported selling to buyers from Guinea 20 tons/week of

écrasée/seche from Jan-May. Another trading group reported moving roughly 4.5 tons/week of dried shallots from March-September to relatives based in Abidjan, Bouaké, Man, Daloa, and Korogho. It takes roughly 6-7kg of fresh shallots to produce 1kg of either dried product, which is typically sold in 40kg jute sacs.

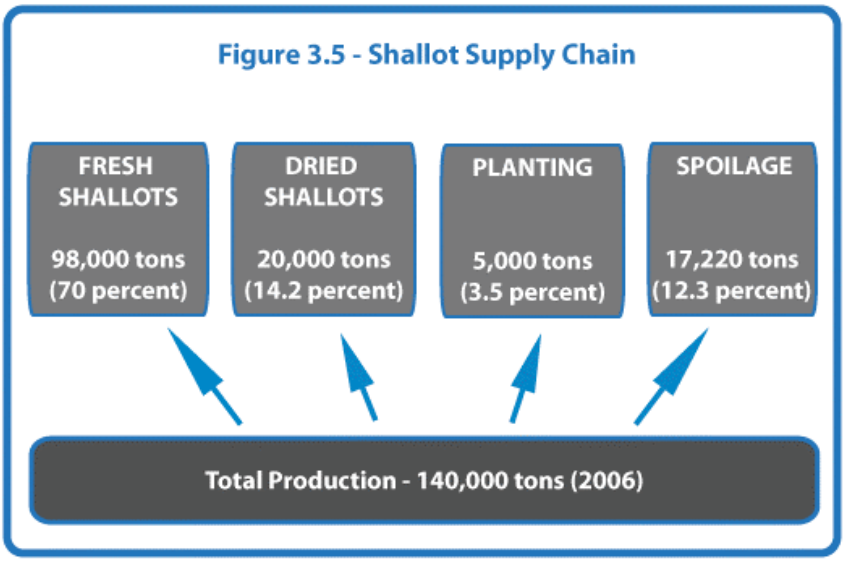
In the early 1990s, PVAPD with the support of GTZ began developing EST in efforts to enhance value add, improve product quality, further extend shelf-life and create additional producer income streams. The processing technique involved is generally considered to be labor-intensive and consists of washing, pealing and cutting the bulbs into thin slices, which are then set out on raised solar drying beds that have been specially designed to maximize ventilation while minimizing exposure to the elements. The benefits accrued are improved hygiene and better quality output. Generally, it takes 8kg of fresh shallots to process 1kg of EST, which is typically marketed to consumers in small packets of between 100-500g for an average price of 1550 CFA/kg. At this price, EST is considered expensive relative to fresh shallots and other dried shallot products. High costs of production are thus a major limiting factor. Though appreciated by some urbanites for its aesthetic and gastronomic properties that most closely resemble fresh shallots, EST remains today a niche product produced in limited quantities and sought by consumers only in periods when fresh shallots are in short supply or are no longer available on the market.

The economic benefits of solar drying are self-evident, allowing producers to minimize overall processing costs. However, extensive drying periods associated with solar drying are a major bottleneck in terms of processing capacity. A number of NGOs have been long promoting the adoption and usage of improved drying technology and other processing machinery at the village level as a means to reduce processing times and increase output. These include manual and automated slicers, automated crushers, and improved drying beds and thermal driers. Studies have revealed considerable gains in productivity as a result. However, concerns remain over the high costs and related affordability of these technologies. As an example, an experimental “solar tunnel” drier combining solar heat with fan circulated air has demonstrated the capacity to cut drying times down to 12-16 hours, depending on weather conditions, as opposed to several several days with traditional drying methods. However, at more than 4 million CFA, these “solar tunnel” driers are prohibitively expensive to deploy in the field. Despite significant investments to date, insufficient drying capacity continues to be a major bottleneck in efforts to scale up output of processed shallots.

3.6 Internal Marketing

The semi-formal nature of market relationships that dominate Mali’s rural sector and the inability to track numerous isolated transactions and related product flows obscure a clearer picture of the scope and breadth of shallot distribution networks. Nonetheless, anecdotal evidence provided by key market actors and others operating within the supply chain does offer some useful perspective as to the individual interests that govern these marketing relationships and related organizational structures.

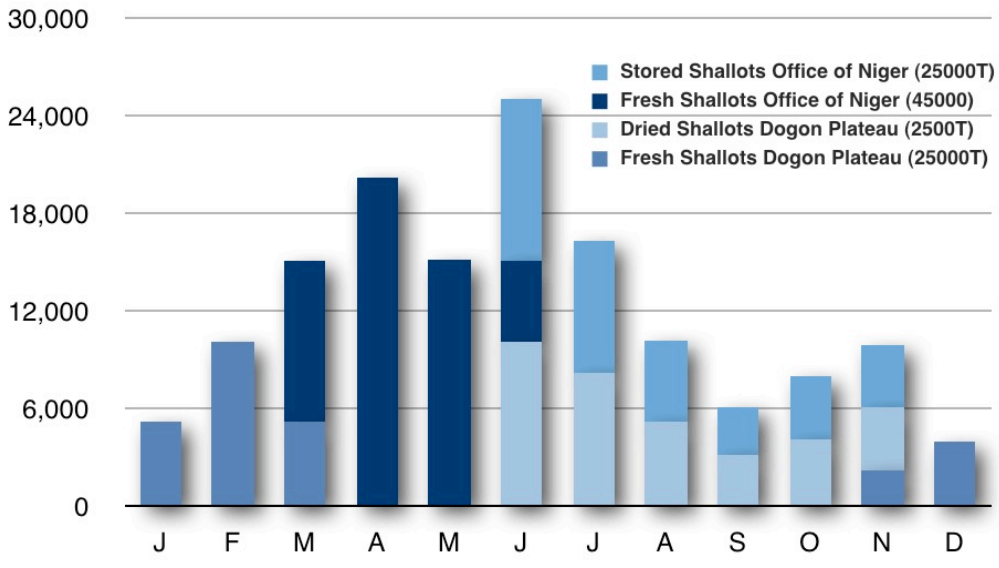
The Ministry of Agriculture (MOA) estimates that as much as 70 percent of Mali’s total shallot production is marketed by the kilo in 25-40kg polypropylene or jute bags as fresh produce (See Figure 3.5). Roughly 90 percent ends up in Mali’s major urban markets, most notably Bamako, Mopti and Segou, and in neighboring markets such as Guinea and Ivory Coast. However, little is known about the extent of these cross-border flows, with rough estimates ranging from 2,000 to 10,000 tons/year. The remaining 10 percent of fresh produce is sold in smaller rural markets across Mali. As a percentage of total production, roughly 3.5 percent is used for planting material, 14 percent is processed into various dried products to add value and extend shelf-life, and an estimated 10-11 percent never reaches the market due to spoilage and localized consumption (World Bank, 2008).



SOURCE: World Bank, 2008

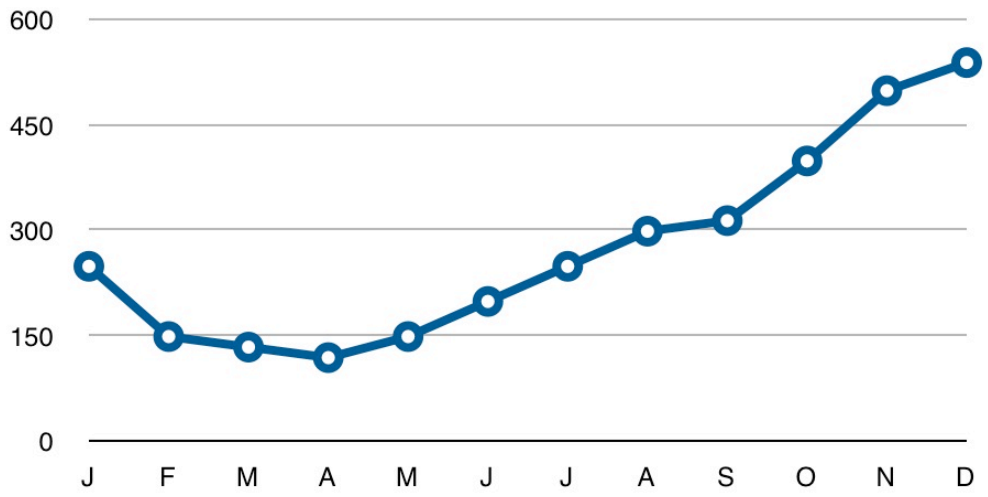
The domestic market for fresh shallots is characterized by strong demand with only limited competition from other products on the market. Nonetheless, strong seasonality is a major constraint as large volumes of fresh produce flood the market at peak harvest (see Figure 3.5) In February, the arrival of shallots from the Office of Niger and local garden tracts in and around Bamako reach the market and compete directly with shallots from the Dogon Plateau. Figure 3.6 illustrates the impact that high seasonality has on market prices.

Figure 3.6 - Shallot Seasonal Availability



SOURCE: World Bank, 2008

Figure 3.7 - Retail CFA/kg Price Bamako Market, 2006



SOURCE: World Bank, 2008

Individuals growers typically organize into village-level cooperatives that help them leverage efficiencies of scale and more easily obtain access to credit. Such cooperatives sell directly to collectors and/or wholesalers who arrange the transport to collection points in depot markets where produce is consolidated further for transport to end markets further afield. Once a price has been negotiated at the village-level, transactions are usually conducted on a cash basis, though short-term credit to make up for shortfalls is not uncommon. Distributors handle distribution to local rural markets and market retailers at the consumer level.

As noted earlier, in a market environment where marketing activities are almost always conducted on an informal basis, distribution networks are most often based on mutual trust among extended family ties or shared cultural identities. This is particularly true in the case of traders and wholesalers from the Dogon Plateau who typically operate in closed distribution networks that often serve to crowd out or discourage competition.

Typically, these networks operate on a revolving credit basis. In the case of Bamako, shallot consignments from Bandiagara are received by relatives, often brothers, in the larger urban market to be sold on a revolving credit basis to a network of distributors who service outlying markets including Kayes, Koulikoro, Kita, Kolokani, Nara, Nioro and Yélimané. Money is sent back to the family on a revolving basis or once the consignment is completely liquidated. Some wholesalers who have the financial means prefer to send money in advance to family members and/or their sourcing agents to pay for the consignment. This method offers several benefits including more control over sales and higher margins. Some individual wholesalers collaborate in larger groupings to share common warehousing space but each manages his or her own personal stocks and sourcing arrangements. It should be noted that men dominate bulk marketing activities in Mali, while women predominantly operate at the distribution and retail levels. In general, all these groups operate informally and no traders encountered throughout the course of this study benefited from formal banking relationships.

While limited, road networks within Mali appear to effectively ensure relatively good regulation between supply and demand. Development of new road infrastructure in recent decades, most notably the Niono-Markala corridor completed in 1984, has facilitated better flow of goods within Mali and to sub-regional markets. Important urban markets that previously may have been difficult for supply networks to reach, such as Kayes, Timbuktu, and Gao, have become new outlets. In addition, ongoing efforts to address transport bottlenecks that impede the free flow of goods along major regional corridors have the potential to help reduce the costs of transport, thereby encouraging cross-border trade. Ongoing research by the Improved Road Transport Governance (IRTG) initiative, a joint ECOWAS/UEMOA/USAID activity, suggests that the Ougadougou-Bamako corridor has seen a reduction in incidences of illicit payments, barriers and other delays in recent years, particularly on the portion of road within Mali, which had previously reported some of the highest incident rates in the region (USAID, 2008).

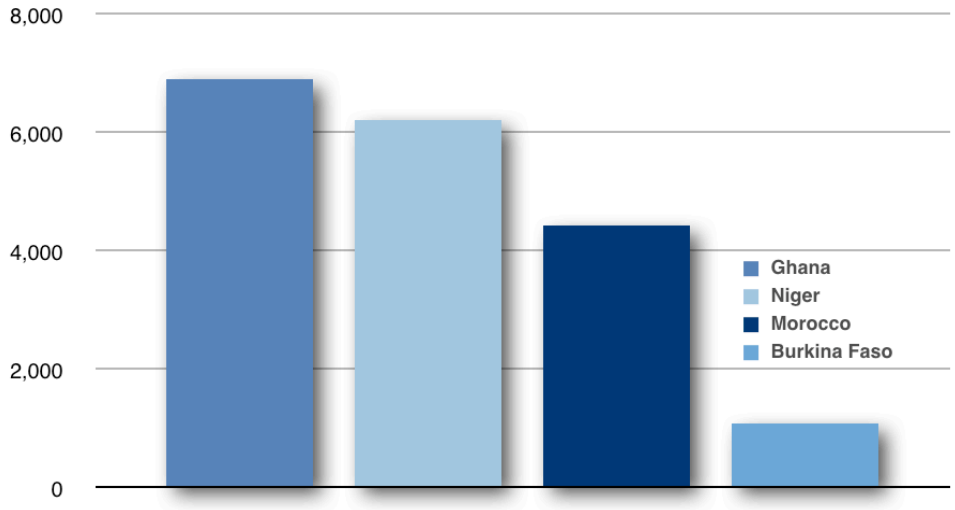
At the retail level, consumers in Mali seem to place less importance on aesthetic attributes related to smell, taste, presentation, etc. In the absence of any product classification system or quality standards, their purchasing decisions appear to be influenced almost exclusively by product availability, price and their ability to pay. Within such a market context, opportunities to add value through product differentiation are limited.

4.0 SUB-REGIONAL EXPORT PROSPECTS

4.1 Overview

As mentioned previously, the lack of disaggregated statistical data focusing exlusivily on global trade in shallots and the weak capacity of West African states to monitor cross-border flows prevented a more detailed analysis of the current scope of Mali's shallot exports into the sub-region. Based on available statistics from such sources as FAOSTAT, UNCTAD/WTO, COMTRADE, etc., it is clear that global exports of onions/shallots (fresh and chilled) have been growing. Exports in 2006 exceeded 4.8 billion tons and were worth $1.7 billion, a 19 percent increase over 2005 (COMTRADE, 2008). Mexico, the U.S., China, Spain and India accounted for well over half of these exports. The five biggest importers in the same year were the U.S., the UK, Russia, Germany and Japan, who together consumed almost half (45%) of global production.

Figure 4.1 - Exports of Onions/Shallots, 2006 (In Tons)



SOURCE: ITC, 2008

Within the sub-region, Nigeria is the 6th largest producer of onions/shallots worldwide, with production reaching 220,000 tons in 2005, according to FAOSTAT; nearly all of which is consumed domestically. In terms of exports, Ghana is the export leader on record with nearly 7,000 tons in onion/shallots exported in 2006, followed by Niger with approximately 6,200 tons. Egypt and South Africa are by far the largest exporters in Africa with exports reaching 72,405 and 32,106 tons respectively. Roughly 79 percent of South Africa's onions/shallots are consumed in Angola (49%) and Mozambique (19%), Zimbabwe, and Zambia. While exports in 2006 from Morocco were modest in volume (4,453 tons), this represented a 191 percent increase over the previous year.

In terms of consumption, Senegal is the largest importer and consumer on record of onions/shallots in the sub-region. The country imported 89,802 tons in 2006, 97 percent of which came from the Netherlands. The same year, it consumed an estimated 141,710 tons (FAOSTAT, 2008). According to government statistics, Senegal's domestic production reached an estimated 136,700 tons in 2006/2007, up from

82,266 tons during the previous year (Sy, 2008). Cote d'Ivoire imported more than 37,600 in the same year, 98 percent of which came from The Netherlands (88%) and Niger (10%) (COMTRADE, 2008). From 2000-2005, annual consumption of onions/shallots in Cote d'Ivoire rose from 24,600 tons to 54,730 tons. In Niger, total consumption reached 266,180 tons in 2006, a 57 percent increase from 2005.

As discussed in Section 3, the bulk of Mali's shallot production, estimated at roughly 140,000 tons in 2006, is consumed within the domestic market. The popularity of shallots among Malians, who consume on average more than 5.23 grams of shallots per day, has underpinned strong domestic demand which has largely kept apace with rising production levels. However, this balanced picture might be shifting. Anticipated growth in output resulting from improving yields and expansion of cultivated land could add as much as 75,000 tons by 2015 (PCDA, 2008). Over the same period, it is expected that urban migration and improved production and conservation technology will lead to an increase in demand equivalent to approximately 50,000 tons. If these estimates prove correct, this would result in an excess supply of 25,000 tons, suggesting a growing risk of market saturation in coming years. This suggests that investments to assist Mali's shallot producers to integrate more fully into the supply chain and identify new export opportunities within the sub-region are needed.

Based on input from domestic stakeholders, the study identified three demand markets in the sub-region that would be the focus of a regional prospecting mission. The three target countries selected to be profiled were Burkina Faso, Cote d'Ivoire and Guinea. Given time constraints, it was decided that stakeholder consultations would be conducted in 2 urban markets in addition to the capital city within each country (see Table 4.2). Several criteria were used in the selection process. Among these were proximity to Mali's major export depot markets (Bamako, Sikasso, Seguiri), perceived demand based on a review of available data and interviews with Malian shallot exporters, and logistical considerations. The purpose of the prospecting mission was to conduct rapid market assessments, analyzing key constraints and opportunities in select markets. This section will provide a brief analysis of each market based on available data and input during consultations with key stakeholders, including wholesalers, distributors, truck drivers, shipping consolidators, marketing associations, financial institutions and others performing key function within the shallot supply chain.

Table 4.2 – Target Markets

Burkina Faso	Cote d'Ivoire	Guinea
Ouagadougou **Koudougou** **Bobo-Dioulasso**	**Abidjan** **Bouaké** **Ferkeeéssedougou**	**Seguiri** **Kankan** **Conakry**

4.2 Markets Profiles

GUINEA

Population – 10.2 million (2008 est.)
GDP per capita (PPP): USD 1,100 (2007 est.)
Major Cities (pop.): Conakry (1.9m), Boké (293,117), Kankan (262,350), Kindia (287,611), Seguiri (271,224) Mamou (236,326)
Currency: Guinean franc
Onion/Shallot Imports: 24,308 tons (COMTRADE, 2006**)**

Guinean consumers growing appetite for onions/shallots is driving imports. According to the International Trade Center, Guinea imported an estimated USD 4.7 billion (24,308 tons) of onions from the Netherlands alone in 2006, representing a 40 percent increase over the previous year and a 22 percent average growth rate since 2002. Guinea's limited domestic production of onions, and to a lesser extent, shallots, is insufficient to meet rising demand. With only limited domestic production, Guinea is arguably the most important market for Malian shallots at present. Seguiri and Kankan act as the central depot markets from where most of the rest of the country sources its shallots. While it is impossible to quantify the volume of shallots currently being imported into Guinea, empirical evidence suggests that there is ample room for growth as demand continues to outstrip supply.

Transport roads between Bamako, Seguiri and Kankan are in relatively good condition. However, the primary route connecting Kankan with the capital and all points south is severely dilapidated and appears to be a significant impediment limiting Mali's access to Conakry, Guinea's capital city and largest market, with a population of nearly 2 million, and to major urban markets in Guinea's southwestern regions. In general, most major roadways connecting the country's trade centers remain in poor repair, slowing the delivery of goods to local markets. Costly transport delays from the frequent breakdown of trucks were the most often cited challenge among Guinean traders. In addition, traders often pointed to product quality issues when citing the biggest risks to their business. Such issues are typically caused by premature harvesting, a practice that results in underdeveloped bulbs containing high humidity, which accelerates spoilage. Exacerbating the problem, widespread usage of readily available yet unsuitable fertilizers such as Urée and DAP, speeds up maturity rates while reducing shelf life. Producers often conceal Improperly dried bulbs in the center of bags, forcing unsuspecting up-market traders to sell them at a loss or dispose of them altogether. These practices and resulting quality issues can serve to increase the risk perception among traders, thus discouraging growth in shallot trade.

In Guinea, women dominate the shallot trade, from wholesaling, to distribution, to retailing; approximately 4 of 5 market traders are women. Men typically avoid trading in shallots, preferring other, less perishable commodities where perceived risks are lower. As elsewhere, traders have few if any banking relationships, preferring to work off of their own savings and taking advantage of informal credit arrangements when available. A range of financial institutions exist such as *Societe Generale de la Banque de Guinea, Pride Finance,* and *Credit Rural* in Guinea but interest rates and origination fees are prohibitively high. For example, *Credit Rural de la Guinea* offers commercial 12-month loans at a 3.5 percent monthly interest rate, with fees totaling 11 percent of principal.

Market traders in Guinea, as elsewhere, typically operate informally and prefer to work independently of one another, although they often share warehousing space, and when convenient, travel together and transport their goods in common truckloads. Most traders insist on making the trip themselves to Bamako to source their shallots directly rather than relying on others to handle their procurement needs. There are two reasons for this: first, they prefer to see the shallots that they are purchasing in advance so as to mitigate risks and ensure that they are getting the best quality product for their money; secondly, each trader has his or her own unique product line and purchasing decisions are often made on the spot based on market availability and prices. Some traders who benefit from well-established seller relationships and who have established a certain level of trust, are able to procure remotely. Others send family members to Bamako to handle their procurement needs.

Generally, wholesalers travel to Bamako's markets once or twice a week, depending on market demand and the time of year. Cost for round trip transportation to Bamako is 10,000 CFA. Trips are typically planned to coincide with the peak arrival to Bamako's markets of fresh produce from Mali's production zones, which usually occurs on Fridays and Mondays. Most traders from Guinea procure their shallots from Bamako's Niarela market, while few source from Médine market. This suggests that the bulk of shallots imported to Guinea are cultivated in the ON. However, Guinean traders appear to make few quality distinctions between ON shallots and those produced in the Dogon Plateau; though some traders did mention a quality preference for dried shallots coming from the Dogon Plateau, most likely a reference to bruyée/séchée vs. the more traditional "écrasée/sechée", which is more crudely processed and darker in color.

In terms of what influences their buying decisions, traders look for biggest onions in the market as a measure of best quality. At times, there is a differential in price between the larger and smaller shallots, but only by 10-15 CFA/kilo. The vast majority of shallots imported are fresh, particulalry during Mali's peak growing season (January-June). Dried shallots, mostly écrasée/séché, are available year round. Some traders prefer to deal only in dried shallots, citing the inherent related to trading in fresh produce. Limited quantities of shallots produced primarily near Kérouané arrive in the market August/September, but during the period when there is scarce availability of fresh shallots from Mali.

Seguiri

Situated in northeastern Guinea, Seguiri is less than 50 miles from the Malian border and only 120 miles from Bamako. It lies at the intersection of transport roads connecting Bamako to Kankan and points south and Dinguiraye to the West. Siguiri is the chief market town for the cattle, maize, millet, and kola nuts produced in surrounding areas and is also a major exporter of rice grown in the river valleys. The region in which Siguiri is situated is mostly savanna and is inhabited by the Malinke, Diula, and Dialonke peoples, who make up the bulk of Seguiri's population of approximately 270,000 people. Seguiri has been an important market town since the 13th century when Alluvial gold was discovered in the area. Due to its location and its close proximity to Bamako, Seguiri has become a key distribution market for Malate, Bockaria, Fatoya and other smaller mining towns across Guinea's gold mining zone to the north and northwest.

Based on interviews with several key market actors in Seguiri, the study estimates that there are about 30 active wholesaler traders, who on aggregate sell approximately 40-50 tons of fresh and dried shallots per week during the period January-April, much of this to an estimated 20 distributors who handle distribution to outlying towns and villages. From May-July, volumes decline to an estimated 10 tons per week. According to traders interviewed, shallots offer relatively favorable margins. Table 4.3 illustrates estimated margins for shallot traders based on market prices in May 2008 when the wholesale per kilo price for

fresh shallots was 350 CFA/kg in Seguiri. Fixed costs include transport from Bamako to Seguiri, 500 CFA per 40kg sac, and 50 CFA per sac to transport the goods locally to the warehouse upon their arrival. Given a 100 CFA differential between the wholesale price in Bamako and that of Seguiri, this suggests that traders' gross margin benefit amounts to roughly 85 CFA/kilo. Accounting for bus fare (10,000 CFA), lodging, food and other travel-related expenses, we can estimate a net benefit of 60-75 CFA per kilo.

Table 4.3 – Wholesale Marketing Costs for Fresh Shallots, Seguiri (May 2008)

Description	Costs (CFA/kg)
Wholesale Price in Bamako	250
Transport Costs Bamako-Seguiri (500 CFA/sac)	12.50
Local Transport (50 CFA/sac)	1.25
Total Marketing Costs (est.)	**263.75**
Wholesale Price in Seguiri	350
Trader Gross Margin	**86.25**

Kankan

Kankan is Guinea's second largest town. As the terminus of the 411-mile (661 km) railway from Conakry and the hub of roads from Bamako, Siguiri, Kouroussa, and Nzérékoré, it is the commercial and transportation centre of Guinea's northeastern savanna region. It is also the chief trading center of the Malinke and Diula peoples, who make up the majority of the town's 262,000 inhabitants. Situated less than 50 miles south of Seguiri and roughly 170 miles from Bamako, Kankan has become the epicenter of the shallot trade in Guinea. It is the primary depot market that supplies most of Guinea's larger urban markets such as Labé, Beyla, Fouta, Kérouané, Mamou, Kouroussa, Kissidougou, Senku and Conakry.

Roughly 30 wholesale traders, 70-80 percent of whom are women are active in Kankan's shallot trade. An estimated 6-8 trucks arrive each week from Bamako laden with 20-30 tons of primarily shallots, but also rice, red pepper, potatoes, corn, dates, etc. to Kankan's "Court Niger," the primary depot market for all Malian goods traffic. Based on input from more than a dozen traders, it is estimated that more than 80 tons of shallots move through Court Niger each week from January-July. Anecdotal evidence suggests that existing demand is potentially more than double current supply. Further, demand appears to be relatively elastic, as consumer demand remains strong even when prices reach their seasonal peak. There is little need for storage as the market is fluid with most shipments selling out within hours of their arrival to Kankan.

Notable in Kankan is also the level of trade in dried shallots. The local Chamber of Commerce estimated that dried shallots currently represented as much as 30 percent of the market in Kankan: 25 percent for "broyée/séchée" and "écrasée/séchée," and 5 percent for "les boules". One trader sources 10 sacs per week of "écrasée/sechée" at 850 CFA/kilo, which she sells retail at 1000 CFA/kilo. She also sources EST in Bamako's Medine market at 1250 CFA/kilo to sell at 2000 CFA/kilo in Kankan wholesale and 2400 CFA/kilo retail in 1 kilo, ½ kilo and 250-gram bags. Interest in EST is limited but appears to be growing, albeit slowly due to its relatively high retail price.

Conakry

Guinea's capital city Conakry is the country's largest with an estimated population of nearly 2 million, nearly one-fifth of Guinea's total population. Conakry's consumers are served by 5 central markets that roughly coincide with the city's five main districts and by another 37 smaller markets that are scattered throughout the city. The city's economy revolves largely around the port, which has modern facilities for handling and storing cargo.

Conakry is primarily a distribution market for Malian shallots. However, there exisits no central depot for Malian goods arriving from Bamako; nor is there localization of shallot trading. This study observed limited availability of Malian shallots in Conakry's markets. Several factors were identified as underlying constraints: 1) poor road infrastructure connecting Conakry with Bamako, more than 600 miles away; 2) strong "product subsitution" competition from imported onions coming from the Netherlands, Niger, Morocco that are widely available in the market; and 3) unfamilairy with and underdeveloped appreciation for Malian shallots among consumers. At certain times of the year, particularly when avalaibility of fresh shallots is limited, the price differential between shallots and onions can reach as high as 150-175 CFA/kg in Conakry's markets, which in recent years have been inundated with onions that are available throughout the year. Moreover, Malian shallots are widely known in the marketplace as "petit oignions" (small onions), which in itself emphasizes their likeness to larger, less-expensive onions, placing them in direct competition, inhibiting product differentiation opportunities and encouraging product substitution.

In Conakry's Tanarie Market, a small group of 6-7 women traders who collaborated loosely to take advantage of distribution efficiencies source shallots from Bamako and Kankan directly. Several other traders operated independently and procure their produce from siblings or trusted wholesalers either in Bamako or Kankan. One well-established trader in Medine Market, one of Conakry's largest, reported sourcing direct from Bamako 15-20 tons per month, which he sold to more than a dozen distributors who provision the city's other markets. Limited quantities of "écrasée/séchée" were observed in the market and no EST.

Cote d'Ivoire

Population – 18.4 million (CIA, 2008 est.)
GDP per capita (PPP): USD 1,700 (2007 est.)
Major Cities (pop.): Abidjan (3.97m), Bouaké (775,300), Daloa (199,100), Yamoussoukro (195,500), Korhogo (163,400)
Currency: CFA Franc
Onion/Shallot Imports: 37,609 tons (COMTRADE, 2006**)**

Cote d'Ivoire remains the sub-region's second largest economy after Nigeria, despite recent turmoil that has discouraged foreign investment and disrupted ecomomic growth. GDP grew by 1.8% in 2006 and 1.7% in 2007. Per capita income has declined by 15% since 1999. The country's current population is 18.4 million, 16 percent (or nearly 3 million) of which live in Abidjan, the country's largest city.

A single-track railway line connects Abidjan with Ouagadougou but the railway has lost much of its traffic to the country's road network, one of the densest and best maintained in sub-Saharan Africa. Cote d'Ivoire's main north-south artery connects Abidjan to Sikasso and Bamako, a distance of about 570 miles

away. Prior to the outbreak of conflict in the early 2000s, Cote d'Ivoire was among Mali's most important trading partners and Abidjan seaport handled as much as 70 percent of Mali's trade (except for gold exports). Much of Mali's trade has since been reoriented elsewhere to ports in Temu, Lome, Cotonou, and more recently, Dakar.

While locally grown subsistence crops meet most rural domestic needs, urbanization and the growing use of hired labor throughout Cote d'Ivoire has created a demand for more diversified foodstuffs. The country is ranked as the 25th biggest importer by volume of fresh onions/shallots, according to the International Trade Center. In 2006, the country imported more than 37,600 tons (USD 11.46 million) of onions/shallots, 88 percent of which came from The Netherlands, and another 10 percent from Niger (COMTRADE, 2008). While this represents a 12 percent drop from the previous year, consumption overall has nearly doubled in the period 2000-2005.

While official statistics are unavailable, Cote d'Ivoire was by all accounts a major market for Malian shallot exports prior to 2002. The outbreak of armed conflict in September 2002 caused a rupture in Mali-Ivorian trade that severed marketing networks, forcing most traders to abandon the shallot trade. Many have since taken up with importing and distributing onions from Niger, Burkina Faso and the EU. At present, more than 5 years on, Cote d'Ivoire remains a divided country, with the north controlled and administered by the leadership of the military rebellion, and the south under the control of President Gbagbo and his administration. While trade between the two countries has largely resumed, cross-border flows of Malian shallots into Cote d'Ivoire have yet to recover their former levels. Moreover, shallots now appear to compete directly with onion imports that have in recent years inundated Ivorian markets.

Abidjan

While Yamoussoukru may be the official capital of Cote d'Ivoire, Abidjan is the country's commercial and banking center as well as the most populated city in French-speaking Western Africa. While recent estimates place the city's population at nearly four million, another one million inhabitants are believed to live in the city's environs. With such a large, relatively affluent consumer base making up more than a fourth of the country's total population, Abidjan holds vast demand potential for Malian shallots.

Abidjan's consumers are well served by more than a dozen markets that are spread across the city's ten communes. The shallot trade is currently centered in the central market of the Adjame Commune, in the "Forum" sector. In this section of one of the city's largest markets, a small group of predominantly male Malian wholesalers is what remains of what once was presumably a sizable community of traders importing goods from Mali. Prior to 2002, an estimated seven, 20-ton truckloads arrived per week from Mali filled with goods, much of which were fresh shallots. Based on anecdotal evidence, inflows of both fresh and dried shallots to Abidjan's markets are estimated to be 10-15 percent of what they once were.

As elsewhere, these wholesalers share warehouse space to store their goods and often coordinate their transport arrangements, but otherwise each trader operates his business individually, with no formal group organization or banking relationships. Each typically sources his goods from various vendors in either Sikasso or Bandiagara once or twice a month. Some procure their produce from family members and/or friends remotely on credit, paying after a 2-3 week interval once all the stock has been sold; others travel to Sikasso to source products directly, paying in cash and arranging for transport back to Abidjan. Stocking and marketing several other products in addition to shallots simultaneously, such as dried pepper, dates, tamarin, etc. sourced from Mali and elsewhere in the region, is a typical strategy widely adopted to mitigate market risks associated with single product marketing.

Ousmane Guiné, one among a half-dozen shallot traders interviewed, currently markets an estimated 2-5 tons per week of fresh shallots on average, depending on time of year and demand. In addition, Ousmane sells an average two tons per week of "écrasée/séchée." Until 2002, wholesale trader Kone Drissa used to sell 20 tons per week of fresh shallots he procured from Niono on a bi-monthly basis. Costs for transport were 40 CFA/kg from Bamako and 25 CFA/kg from Sikasso. Kone said that many traders abandoned shallots for onions when the conflict blocked access to Bamako and Sikasso. He now manages to sell roughly 3-5 tons per week, depending in the time of year, market availability and demand. Kone often organizes transport for other wholesale traders in the Adjame market who pay him in advance 40 CFA/kg for transport from Sikasso to Abidjan. When he arrives in Sikasso, a local company helps him organize the goods for shipment. Sometimes trucks are plentiful; other times they are difficult to secure. He estimates that total transport costs, including 700,000 CFA for rental of a 50-ton truck, export documents, unofficial tolls, etc. come to roughly 1,470,000 CFA, which leaves him with a gross profit of 530,000 CFA.

Availablity of fresh shallots more or less follows the production season in Mali; January-June for fresh shallots, while dried shallots (mostly "écrasée/séchée") are available in the market practically all year round. Several traders cited their interest in promoting EST and had in recent months been sharing samples with their distributors. Some reported having already received orders. Imports of fresh shallots generally cease after June as prices back in Sikasso and Bamako hit their peak and Malian shallots begin to compete with a August-September harvest of locally produced shallots.

Abidjan's Adjame market is the central distribution point to where local distributors come to procure their shallots, which they then sell to local market vendors in outlying towns and larger cities such as Divo, Abangouru, Agboville, Dabou, Lakora, etc. While wholesale importers are predominantly Malian, distributors hail from several countries including Mali, Guinea, Burkina Faso, as well as Cote d'Ivoire. After accounting for transport costs (40 CFA/kg), fresh shallots procured in Sikasso in May, for example, for 250 CFA/kg are typically sold for 350-375 CFA/kg in bulk and 400 CFA/kg retail, suggesting a gross margin at the wholesale level of roughly 60-85 CFA/kg (See Table 4.4).

Table 4.4 – Wholesale Marketing Costs for Fresh Shallots, Abidjan (June 2008)

Description	Costs (CFA/kg)
Wholesale Price in Seguiri	250
Transport Costs Seguiri-Abidjan	40
Local Transport (50 CFA/sac)	1.25
Total Marketing Costs (est.)	**291.25**
Wholesale Price in Abidjan	350-375
Trader Gross Margin	**58.75-83.75**

Shallot traders in Abidjan cited growing competition from Burkinabe onions, which were available in the market March-May at a per kilo price 150 CFA less than that of shallots. In addition, rising volumes of onions from Morocco, Holland, and Niger can generally be found on the market for less. SUBIMEX is known to be the largest importer of onions in Cote d'Ivoire but was not interviewed due to a lack of time. This study noted what appeared to be the virtual saturation of Abidjan's markets with imported onions. In Adjame market alone, an estimated 2-3, 50-ton trucks arrive from Niger each week. One trader called 2008 the worst year to date in terms of the onion market, citing prices that dropped to 100 CFA/kg, forcing

many importers to sell at a loss.

Amid rising imports, some traders argued that onions represented direct competition; others thought that consumers appreciated the difference and were not prepared to subsitute. Evidence collected during the course of stakeholder consultations suggests that consumers, some perhaps unfamiliar with shallots as distinct from onions, others faced with a considerable price differential, may well be reaching for onions as a lower cost substitute. Whatever the case may be, it should be noted that most Ivorians are accustomed to using onions in their sauces. Clearly, the question of whether or not Malian shallots compete with onions as a substitute product should be explored further.

Several established and seemingly well-organized marketing cooperatives are actively involved in importing fruits and vegetables from the sub-region and distributing the produce in Abidjan's markets. Two of these, la Cooperative des Commercants de Vivriers de la Commune de Cocody (COCOVICO) and Cooperative des Comercants d'Oignon (COCO-Oignon), representatives from which were interviewed for this study, were curently importing onions from Burkina Faso and Niger. COCOVICO, in particular, had entered into a 12-month "test market" contract (see Appendix X) with a Burkinabe trading group for the import of 2,300 tons. Before each order is shipped, COCOVICO informs their partners of the per kilo price in Abidjan. All pricing is agreed to in advance and each party's costs and margins are made transparent. The Burkabe exporter supplies on a credit basis and COCOVICO sends payment with 2 weeks of receiving the shipment of goods. While neither association currently marketed shallots, both COCOVICO and COCO-Oignon expressed interest in developing relationships with reliable Malian producers and/or exporters who could guarantee a consistent and regular supply of good quality shallots.

Bouaké and Ferkéssedougou

For this study, stakeholders were also interviewed in Bouaké and Ferkéssedougou. Limited availability of shallots was observed in both cities. Bouaké was most notable for its sizable wholesale onion market dominated by more than two-dozen traders, some of whom had marketed shallots before the outbreak of conflict. Some 10 trucks, each carrying 25-50 tons of onions arrive each week to the market from Burkina Faso and Niger. One of the dozen traders interviewed sells 350 sacs of onions, each weighing 100 kg or more, every two weeks. Onions are available in the market all year long. From January–August, onions frm Burkina Faso compete in the markets with those from Niger. From September-December, imports from The Netherlands flood the market in the off-season.

Burkina Faso

Population – 15.3 million (CIA, 2008 est.)
GDP per capita (PPP): USD 1,300 (2007 est.)
Major Cities (pop.): Ouagadougou (1.5 million), Bobo-Dioulasso (902,662), Tenkodogo (542,286), Banfora (400,534)
Currency: CFA Franc
Onion/Shallot Imports: 342 tons (ITC, 2004**)**

Burkina Faso is consistently ranked among the poorest countries in the world with a per capita income of an estimated USD 1,300. Agriculture represents 32 percent of its gross domestic product and provides employment for more than 80 percent of the country's estimated population of 15.3 million, nearly 15 percent of who live in its capital city of Ouagadougou, according to the country's 2006 national consensus.

The country's traditional agricultural economy consists mostly, especially in the south and southwest, of growing sorghum, pearl millet, maize, peanuts, rice and cotton. In efforts to diversify its production base, Burkina Faso has encouraged development of its horticulture sector with an objective of penetrating export markets. In addition to green beans and mangoes, the country has become an important regional exporter of onions.

The widespread development of state-sponsored irrigation projects across the country has resulted in a ten-fold increase in onion production in recent years, according to Benao Issa of the local agricultural extension service in Koudougu. Farmers attracted by higher margins offered by onions have transitioned to onion cultivation. Many of the country's onion producers receive support through specialized irrigation projects in accessing credit from local micro-finance institutions for the purchase of inputs and equipment. Some of this equipment is subsidized by as much as 50 percent by the *Projet d'Appui aux Filières Agro Pastorales (PAFAP).* At the same time, the country's nascent shallot production, which does not benefit from public support, has plateaued.

In terms of marketing, locally produced onions have largely taken precedence over shallots imported from Mali, which had previously occupied a prominent position in the marketplace. An estimated two-thirds of Burkina Faso's production is exported to sub-regional markets such as Côte d'Ivoire and Ghana where it competes head on with Niger's Galmi onions for market share.

According to official statistics, Burkina Faso produced 17,000 tons of onions/shallots in 2006 (FAOSTAT, 2008), but exported a mere 1,100 tons, 92 percent of which went to Ghana, and the rest to Cote d'Ivoire (COMSTAT, 2008). Jacob Sanou of the Center for Agronomique Resesarch in Farako-Ba estimated that the country's production actually was higher still at 21,505 tons for the 2005/2006 season. The majority of Burkina Faso's onion production is sold during the period December to May. Producers that have access to storage wait until June-July when the peak season has ended and prices hit their peaks (300 CFA/kg). Prices bottom out in December/Janaury at 100 CFA/kg during the peak harvest season.

Large agribusiness are said to increasingly dominate the onion trade. Increasingly, they are establishing upstream linkages with smallholder producer cooperatives to take advantge of improved quality control, input supply opportunities and procurement. One such agribusness, AGRIFA, provides its suppliers with training and inputs on credit, which it secures at the start of the season from the Reseau des Caisses Populaires du Burkina (RCPB), a leading savings and credit institution in Burkina Faso.

Ouagadougou

This study noted that the shallot trade in Ouagadougou was virtually non-existent. During two days of consultations with market actors in 4 of the city's largest markets, only a handful of retail vendors were identified that occasionally marketed shallots from Mali. Evidence suggested that limited demand for shallots in Ougadougou is likely due to two factors: 1) direct competition from the country's growing onion production; and 2) a general perception among consumers that Malian shallots were of inferior quality.

Bobo-Dioulasso

In Burkina Faso's second largest city, Bobo-Dioulasso, Mamounata Sanou is the only female trader that market shallots from Mali. She buys on a cash basis from Malian women who periodically come to Bobo to sell in bulk during the period December-April. According to Mamounata, she typically sells on average 500-600kg per day to distributors who provision Bobo's markets and villages on the city's periphery. She believes that if she could sell as much as 800kg per day if she could maintain enough stock. She said that

she would be interested in developing new commercial relationships with exporters and/or producer groups who could supply good quality shallots. In terms of payment, she would be open to paying 50 percent upon receipt, and the rest within 1 week. Mamounata cited product quality and price concerns as most important when it comes to purchasing decisions. Locally produced shallots arrive in the market during a short season beginning in October and ending in December. Some of this produce is exported to Mali. Burkinabe consumers are said to appreciate Malian shallots for their superior quality and size compared with those locally produced.

Koudougou

The Koudougou region is the largest production zone for onions in the country. Regional production exceeds 20,000 tons, according to the local agricultural service. The regional capital of the same name acts as the collection depot from where the majority of the country's exports are shipped to sub-regional markets. Cultivated varities vary depending on the region. The "Violet de Galmi" is the variety that is most suitable for exports as it has a longer shelf life and offers a savory aroma. The second most widely traded is the "Violet de Garangro," which is the variety most similar to the "Violet de Galmi." Constraints to the development of the onion sub-sector in Burkina Faso are many of the same faced by Mali's shallot value chain: lack of sufficient water for year-round cultivation; insufficient storage capacity; and the inability to better manage seasonal product supply.

5.0 CONCLUSIONS

This section presents a list of key findings and recommendations based on observations and input solicited from value chain stakeholders including producer and producer organizations, market traders, exporters, importers, NGOs, banks and other private sector actors across Mali, Guinea, Cote d'Ivoire and Burkina Faso. A complete list of participants is attached in the Appendix. It is hoped that the information provided in this study will help IICEM and its sponsor USAID-Mali better orient project efforts moving forward so as to ensure critical job creation, sustained income growth, and meaningful poverty reduction is affected among value chain actors.

5.1 Key Assumptions

Several key assumptions underpinned this study's analysis and associated recommendations. First, Mali's annual production of shallots will continue to grow as more farmers take up the activity, thereby increasing the land area under cultivation, particularly in the ON. Moving forward, the risk of market saturation will become more acute as growth in domestic demand for shallots falls behind production growth. However, production, storage, and processing innovations will continue to boost regional export prospects for both fresh and dried shallot products while ongoing regional integration initiatives and infrastructure investments will improve Mali's capacity to trade with its neighbors. On the other hand, increasingly stringent food quality and safety standards will continue to hamper Mali's horticulture exports to the EU, the US, and higher value markets elsewhere.

Other assumptions are that rising GDPs and urban migration will continue to increase overall regional demand among consumers within the sub-region interested in a more diverse range of goods with higher nutritional benefits. At the same time, high commodity prices will spur increased demand for locally and regionally produced foods, at least in the short term.

5.2 Key Findings and Recommendations

The following is a list of recommendations with regard to near-term interventions that IICEM might undertake to address gaps in value chain competitiveness that were identified during the course of this study:

1. *Mitigating Risks of Market Saturation* – Domestic demand for fresh and dried shallots has remained robust and has largely kept pace with rising production levels in Mali. However, anticipated growth in cultivated acreage coupled with improved production, conservation and processing technology will likely lead to excess supply within the next several years. In order to avoid market saturation and a corresponding pricing collapse, Mali will need to develop new export outlets.

   Recommendation #1 - This study concludes that scope exists to orient more of Mali's shallot production towards two markets in particular within the sub-region: Guinea and Cote d'Ivoire. With the appropriate capacity-building and technical support, existing external marketing networks could be strengthened and new market linkages established. In Guinea, IICEM could leverage its partnerships at the production level to assist a number of Kankan and Seguiri traders identified by this study who expressed interest in developing relationships with new suppliers from whom they could reliably source good quality produce. In Cote D'Ivoire, where market structures are more developed, project efforts might focus on faciliating a series of pilot transactions between Malian exporters and Abidjan-based marketing cooperatives like COCOVICO and COCO Oignon based on clear and transparent purchase contracts. Support efforts would be limited to sensitizing all parties as to the benefits of formalizing transactions and ensuring that contractual obligations are clearly understood in advance.

2. *Shallot Demand Undercut by Onion Supply* – This study noted that increasing market penetration of onions imported from primarily Holland, Niger, Morocco, and Burkina Faso into the sub-region is dampening demand for Malian shallots. In Mali, where shallots have long held a central role in the nation's cuisine and where consumers' appreciation for their unique culinary qualities is strong, demand for shallots is relatively inelastic and onions are rarely used as a subsitute product. Elsewhere in the region, where consumers are less familiar with shallots, demand appears to be far more elastic and substitution relatively common, particulalry when there is a price differential in favor of onions.

   Recommendaton #2 – This study believes that promotional efforts to enhance consumer awareness of shallots and their unique culinary attributues could go a long way in spurring demand among the region's consumers. In the UK, a similar campaign launched in 2003 by *UKshallots* was widely successful in promoting increased pentration of the vegetable into UK households. In addition, sensitizing consumers and market actors and encouraging gradual adoption of the term "echalotes" in lieu of "petits oignons" as shallots are more commonly known across the region would in time affect a decoupling of shallots from onions in the marketplace, thereby reducing the competitive impact of growing onion imports. Related activities might include promotional events in collaboration with high-end restaurants, hotels and supermarkets in major urban markets along with broadcast radio spots. Further analysis would first be needed to identify appropriate regional partners and media channels and to develop a suitable marketing campaign strategy.

3. *Absence of Quality Standards Impairs Growth* – A major constraint to increasing exports is the absence of quality standards and norms that serve to guide and harmonize growing, handling, storage and marketing activities. Damaged or spoiled produce resulting from improper post-harvest handling and/or processing was one of the challenges most often cited by stakeholders. In addition to discouraging demand, it leads to supply chain inefficiencies and revenue loss that might otherwise be avoided. In addition, standards often bring added transparency and promote trust, which might encourage enhanced collaboration among supply chain actors.

   Recommendation #3 – In cooperation with the project's existing partners, IICEM is well positioned to take a leading role in facilitating stakeholder identification and adoption of quality standards at the national level. This would involve the active participation of the broadest range of actors possible so as to to ensure buy-in, namely farmers' organisations, agricultural and trade associations, R&D centers, food processing organizations, as well as NGO's and state agencies. To achieve this important objective, a series of forums would be organized to sensitize stakeholders with regard to the need for and the benefits of standards and to encourage open dialogue. By bringing stakeholders together, this activity might also serve to facilitate much-needed horizontal and vertical linkages that are largely absent within the supply chain.

4. *Limited Organizational Capacity Among Producer Organizations* – Producer organizations vastly enhance smallholder capacity to identify and manage resources, better access services, and improve production and marketing of crops. These and other benefits contribute to higher incomes and improved living standards for producers. Farmer organizations can also play a key role in organizing economic activities beyond local boundaries. Based on interviews with key stakeholders in the Dogon Plateau production zone, this study highlights the importance of sustained commitment to ensuring the ability of POs to operate independently of donor assistance—and thus, assuring their long-term viability—as an essential ingredient to the long-term development of the value chain.

   Recommendation # 4 - A follow up evaluation of FAC-GEST and ULPTE should be conducted to gain a better understanding of their organizational structure and the nature of their collaboration activities with PDCO. In addition, efforts to strengthen their marketing capacity while assisting them and other

producer groups to establish downstream linkages with pre-qualified buyers would greatly enhance their ability to capture efficiencies and integrate more fully into the value chain.

5. *High Price Limits EST Potential* – High processing costs for EST severely limits its market potential. Despite ongoing innovations, EST processing remains a highly labor intensive activity. The initial step involving peeling each bulb by hand and insufficient drying capacity are major challenges that will need to be addressed if processing costs are to be reduced and volume efficiencies enhanced. In addition, lack of familiarity with the product, its culinary benefits, and appreciation for its higher quality among consumers leads to significant marketing gaps. Evidence suggests that Malian consumers are most inclined to purchase EST during the period August-September when prices for fresh shallots have peaked and/or fresh shallots are unavailable. This review noted only limited demand for and availability of EST in Guinea, Cote d'Ivoire and Burkina Faso.

   Recommendation # 5 - While recognizing that EST remains a niche product, the promotion of which does not merit significant investments by IICEM, this study does see potential value in facilitating a limited number of product placements in high-end supermarkets in Conakry, Abidjan and Ouagadougou that were identified, and whose management expressed interest, during the course of the regional prospecting mission. These efforts could be combined with other product branding and geographic labeling initiatives that some of IICEM partners are currently implementing.

ANNEX 1 – LIST OF STAKEHOLDERS

NAME	TITLE	NAME OF ORGANIZATION	TYPE OF ORGANIZATION	LOCATION	CONTACT DETAILS
MALI					
Salif Diarra	Director	Observatoire du Marché Agricole (OMA)	Gov't Agency	Bamako	Tél: +223 221 40 76 Cell: +223 676 83 47 salif@datatech.net.ml
Pierre Traoré	Statistical Manager	Observatoire du Marché Agricole (OMA)	Gov't Agency	Bamako	Cell: +223 614 78 59
Binimo Tembely	Wholesale Trader	Groupe Dougo Ouologem (20 commerçants d'échalote)	Informal Trade Group	Médine Market, Magasin n° 149, Bamako	Cell: +223 918 43 19
Hamidou Hamayogo	Wholesale Trader	Sagara Brothers (3 shallot traders))	Informal Trade Group	Médine Market, #108-109, Bamako	Cell: +223 604 72 79
Sékou Samaké	Directeur	l'Institut de l'Economie Ruruale (IER) - TRANS	Research Center	Mopti	Tél: +223 243 08 47 Cell: +223 637 48 55
Djibril Dramé		Projet Compétitivité et Diversification Agricoles (PCDA)	Donor Project	Mopti	Tél: +223 242 13 31 Cell: +223 623 34 25
Idrissa Nantoumé	Wholesale Trader	Coopérative Touma Barama	Cooperative	Mopti	Cell: +223 915 94 10
Mamadou Guindo	Director	PDCO	NGO	Bandiagara	Tél: +223 242 21 11 Cell: +223 605 26 59
Mamoudou Djiguiba	Director of New Technologies	PDCO	NGO	Bandiagara	Cell: +223 685 43 92
Bourama Karambé	Marketing Director	FAC-GEST	Farmer Oganization	Bandiagara	Cell: +223 922 84 89
Pèpèlou Kassogué		FAC-GEST	Farmer Oganization	Bandiagara	Cell: +223 576 43 16
David Sagara	Director	Action de Promotion Humaine (APH)	NGO	Bandiagara	Tél: +223 244 20 25 Cell: +223 684 25 64
Zéïni Abdoul Kader	Director	BNDA	Financial Institution	Bandiagara	Tél: +223 244 20 27

					Cell: +223 619 14 26
Amadou Nantoumé	Wholesale Trader	Axe Bandiagara-Sikasso	Independent	Bandiagara	Cell: +223 685 43 64
Souleymane Guindo	Wholesale Trader	Axe Bandiagara-Sikasso-Côte d'Ivoire	Independent	Bandiagara	Cell: +223 614 27 98
Seydou Kéné,	President	L'Union Locale des Producteurs et Transformateurs d'Echalote (ULPTE)	Farmer Organization	Bandiagara	Cell: +223 910 58 79
Bouraïma Tembely		L'Union Locale des Producteurs et Transformateurs d'Echalote (ULPTE)	Farmer Organization	Bandiagara	Cell: +223 910 58 55
Ebelou Guindo	President	Société coopérative des femmes de Anakanda	Cooperative	Bandiagara	
Amadou Guindo	President	Société coopérative des hommes de Anakanda	Cooperative	Bandiagara	
Ada Tembely	President	Société coopérative des femmes de Dandoli	Cooperative	Bandiagara	
Bintou Diallo	President	Association Binkadi des productrices d'échalote de Kanabougou	Cooperative	Office du Niger	
Rokia Samaké	President	Association Cèsiri des productrices d'échalote de Kanabougou	Cooperative	Office du Niger	
Kadiatou Kanté,	President	Coopérative Benso des transformatrices d'échalote de N'Djécorobougou	Cooperative	Office du Niger	Cell: +223 695 74 12
Ousmane Djiré	Director	CAFON Niono	Input Supplier (Machine Tools)	Niono	Tel: +223 235 20 48 Cell: +223 628 16 43
Mobibo Samaké,	Coordinator	PCDA Segou	Donor Project	Ségou	Tel: +223 232 34 48 Cell: +223 610 36 56 / 679 50
Seydou Bouaré,	Mangement/ Marketing Director	PCDA Segou	Donor Project	Ségou	Cell: +223 673 70 96
Hamidou Bagayoko	Executive Secretary	FASO JIGI	Financial Institution	Ségou	Tel: +223 232 11 77 Cell: +223 672 41 05
Guirama Tembely	Wholesale Trader	Groupe Guirama Tembely (3 Traders)	Cooperative Union	Medine Market, Bamako	Cell: +223 641 53 43
Korko Babadji	Wholesale Trader	Group Korko Babadji (30 merchants)	Informal Trade Group	Baradi Market,	Cell: +223 676 13 86

				Bamako	
GUINEA					
Abdulaye Magessouba	Director of Agriculture	Agriculture Service, Prefecture	Gov't Agency	Seguiri	
Sekou Gako	President	Chamber of Agriculture	Association	Seguiri	
Awa Diawara	Wholesale Trader		Independent	Seguiri Market	
Sakona Diabete	Wholesale Trader		Independent	Seguiri Market	
Konke Magasouba	Wholesale Trader		Independent	Seguiri Market	
	Account Manager	Credit Rural de la Guinee (Nouga)	Financial Insitution	Seguiri	
Mamadi Kat Magassoi	Station Chief	Ministry of Commerce, Industry, and SMEs	Gov't Agency	Seguiri	Tel: +224 60 58 27 17
Madame Kake Cisse	Wholesale Trader		Independent	Court Niger, Kankan	
Tiemeko Kourouma	Wholesale Trader		Independent	Court Niger, Kankan	
		Pride Finance	Financial Institution	Kankan	
Mory Doumbouya	Permanent Secretary	REGOSA	Trade Association	Conakry	Tel: +224 64 59 16 52
Dr. Mariam Diallo	Director	Groupement Feminin pour la Promotion des Fruits et Legumes (GFPFL)	Cooperative	Kindia	Tel: +224 60 29 42 63
Elhadj Boubacar Fofana	President	REGOSA		Conakry	Cell: +224 60 28 26 42 bacarfofana@yahoo.fr
Lsnsana Fofana	Director,	Chamber of Commerce, Industry and Artisinal Activities	Association	Conakry	Tel: +224 62 35 20 62
Nabiya Konte	Wholesale Trader	Nabiya Konte Group	Informal Trade Group	Tannerie Market, Conakry	Tel: +224 62 44 48 91
M. Traore	Wholesale Trader		Independent	Medine Market, Wenbene Sector, Conakry	Tel: +224 60 33 58 04
Elhadj Sekou Kourouma	Distributor		Independent	Medine Market, Wenbene Sector, Conakry	
Ben Omar Toure	Chef de Service	Chamber of Commerce, Industry and Artisinal Activities	Association	Conakry	
Alpha Ba	Director General	Hypermarche Super Bobo	Private Company	Conakry	Cell: +224 64 29 77 23

Ousmane Guino	Wholesale Trader		Independent	Adjame Market, Sector Forum, Abidjan	Tel: +225 05 92 61 36
Zoumana Coulibaly	Wholesale Trader		Independent	Adjame Market, Sector Forum, Abidjan	Tel: +225 06 05 23 83
Drama Sanguare	Wholesale Trader		Independent	Adjame Market, Sector Forum, Abidjan	Tel: +225 07 60 88 66
Rosali Boti	President de la Conseil d'Administration	Cooperative des Commercants de Vivriers de la Commune de Cocody (COCOVICO)	Cooperative Marketing Association	Cocody, Abidjan	
Rosali Boti	President	ROESAO-CI	Association	Abidjan	
Mdme. Marie Dje Bi	President	Cooperative des Comercants d'Oignon (COCO Oignon)	Cooperative Marketing Association		
Kone Drissa	Trader/ Truck Renter		Independent	Forum Zone, Adjame Market, Abidjan	
Jusuf Dembale	Wholesale Trader		Independent	Wholesale Market, Warehouse #391, Bouaké	
Dao Amara	Chef d'Exploitation			Wholesale Market, Bouaké	
		24 onion traders	Informal Trade Group	Wholesale Market, Bouaké	
Amadou Traore	Wholesale Trader		Independent	Wholesale Market, Bouaké	Tel: +225 36 86 80 86
Soro Poho	Branch manager	COOPEC-CI	Financial Institution	Ferkessedougou	Tel: +225 02 24 40 84
Genebou Diarra	Market Vendor		Independent	Ferkessedougou	Tel: +225 09 41 68 50
Sanoga Achata	Market Vendor		Independent	Ferkessedougou	Tel: +225 02 89 49 19
Sale Sanoga			Independent	Ferkessedougou	Tel: +225 03 10 48 19
Sako Sita	Market Vendor		Independent	Ferkessedougou	Tel: +225 45 07 04 99
M. Diara	Transport Consolidator		Independent	Ferkessedougou	
Yaya Koma	Truck Driver	Abidjan-Bamako Corridor	Independent	Ferkessedougou	
BURKINA FASO					

Michel Skaff	Director	SCIMAS SUPERMARCHE	Private Company	Ouagadougou	
Haoua Coulibaly/Sagnon	Responsible du Service	Programe Support and Partner Relations	Financial Institution	Ouagadougou	Tel: +226 50 30 48 41 Cell: +226 70 72 97 26
Tefian Assetou	Market Trader		Independent	Ouagdaougou	Tel: +226 70 23 64 67
Cyprian Faho	General Manager	Promexport	Importer/Exporter	Ouagdaougou	Tel: 226 76 62 29 01 promexport@hotmail.com
Cyprian Faho	President	Assiciation Professionelle des Exportateurs des Fruits et Legumes de Burkina	Trade Association	Ouagadougou	Tel: 226 76 62 29 01
Paul soalla	Managing Director	Burkian Fruits et Legumes BFL	Exporter	Ouagadougou	Tel: +226 70 23 98 13 Burkina_fruits@yahoo.fr
Benao Issa	Chef de Service	Etudes et Programmation, Direction Provinciale de l'Agriculture		Koudougou, Burkina Faso	Tél: 50 44 01 65 Cell: 78 11 90 67
Aboubacar Niamou	Secrétaire Général	Chambre Régionale d'Agriculture de Bobo-Dioulasso		Bobo Dioulasso, Burkina Faso	Tél: 20 98 60 26 Cell: 70 14 70 37
Jacob Sanou	Directeur du Centre	Centre de Recherche Agronomique de Farako-Ba		Farako-Ba, Burkina Faso	Tél: 20 98 23 29 Cell: 70 28 37 97
Mamounata Sanou	Wholesale Trader	Marché Ligma de Bobo-Dioulasso, Hangar M5 et M6		Bobo-Dioulasso, Burkian Faso	Cell: 76 36 70 61

REFERENCES

ACDI (2007), Rapport sur l'Etat des Lieux de la Filiere Echalotes / Oignons / Ail: Commercialisation des Produits, PAFA, October 2007, New Brunswick.

AfDB/UNECA (2003), *Review of the Implementation Status of the Trans African Highways and the Missing Links: Volume 2: Description of Corridors*, August 14, 2003.

Agroline (2006), *Echalotes - Les producteurs français s'allient à des producteurs d'Asie,* AgroLigne Magazine, March 9, 2006, Montpellier.

CAE (2001), Rapport Final sur l'Assistance aux 35 Groupements du Plateau Dogon Dans la Production, le Conditionnement et la Commercialisation de l'Echalote Sechee en Tranches, Centre Agro-Entreprise, November 2001, Bamako.

CCE (2007), *Investir au Mali: l'Agriculture et l'Agroalimentaire*, Section Mali, Conseiller du Commerce Extérieur de la France, Paris.

Chemonics (2007*b*), *Trade Mali, Annual Report: September 2006-August 2007*, Final Project Report, USAID Mali, Bamako.

Chohin-Kuper A., Kelly V., Mariko D. (1999), Evolution du maraîchage dans la zone de l'Office du Niger au Mali. INSAH/IER.

CLUSA/CHEMONICS (2006), *Consolidated Work Plan 2006-2007: PRODEPAM, Trade Mali, Mali Finance*, USAID Mali, Bamako.

CLUSA (2007), *Résultats de l'Enquête Ménage et Suivi des Activités du Programme de Développement de la Production Agricole au Mali (PRODEPAM)*, final report, USAID Mali, Bamako.

Daya, Yusuf (2006), *Trade Potential Between South Africa and Angola*, Department of Agriculture, Pretoria, March 1, 2006, Pretoria.

Dembelé, Daounda (2001), *Productions Horticoles et Perspectives de Développement au Mali,* Seminaire sur la Diversification et le Developpement du Secteur Horticole en Afrique, 13-15 February 2001. Bamako.

Dewbre, J, J.B. de Battisti and J.P. Pradère (2007), *Contraintes au développement du secteur agricole et à l'amélioration de la sécurité alimentaire au Mali*, TAD/CA/RD(2007)5, OECD, Paris, 28-30 November.

FAO (2006), FAO Statistical Yearbook 2005-06, Issue 2, Rome.

FAO (2007), *Project Doument: Projet d'appui aux organisations paysannes du Plateau Dogon pour une meilleure valorisation de leurs productions maraîchères*, Programme Nationale de Sécurité Alimentire au Mali, Bamako.

Gergely, Nicolas (2002), *Etude sur la compétitivité des filieres agricoles au Mali*, FAO Centre d'Investissement, September 2002, Bamako.

Lo, Saliou Fatma (2007), *Production d'oignon à Potou : En quête de l'autosuffisance*, le Soleil, May 5, 2007, Dakar.

Matsumoto-Izadifa, Yoshiko (2008), *Mali: Beyond Cotton – Searching for Green Gold*, Centre for Development, OECD, Paris.

MIGA (2007), *Snapshot Africa – Mali: Benchamrking FDI Competitiveness*, World Bank, January 2007, Washington, D.C.

OECD (2008), *African Economic Outlook 2006/2007*, OECD/AfDB, Paris.

PACCEM (2004), *Filière Échalote au Mali/Diagnostic des organisations de productrices d'échalotes, Rapport Final,* PACCEM, October 2004*, Bamako.*

PCDA (2006), *Profil stratégique pour le développement de la compétitivité des filières agricoles du Mali,* Projet Gyomar International, September 2006, Bamako.

Sy, Mamdou (2008), *Sénégal: La production d'oignon passe de 82.266 a 136.700 tonnes*, le Soleil, January 24, 2008, Dakar.

William Reed (2003), *Case for shallots: Campaign Planned to Increase Consumption*, The Grocer, 23 August 2003.

World Bank (2005), *Mali Investment Climate Assessment*, World Bank, Washington, D.C.

World Bank (2005*a*), *Project Appraisal Document: Agricultural Competitiveness and Diversification Project*, Report No. 30326-ML, World Bank, Washington, D.C.

World Bank (2005b), *Une evaluation du Climat des Investissements: Mali*, June 2005, Bamako, Mali.

World Bank (2007), *Project Paper on a Proposed Additional Financing to the Republic of Mali for an Agricultural Services and Producer Organisations Project*, Report No. 39630-ML, World Bank, Washington, D.C.

World Bank (2008), *Plan de Competitivite: Filiere Echalote et Oignon*, Programme Competitivite et Diversification Agricole, Ministere de l'Agriculture de la Republique du Mali, Edition 2007/2008.

Cost Sector Catering (2008), *British Shallot Growers Struggling to Keep Up with Demand*, Newsletter, 1 May 2008.

UNCTAD (2006), *An Investment Guide to Mali: Opportunities and Conditions*, October 2006, New York/Geneva.

USAID (2007), *Mali Value Chain Finance Study: Draft Notes on Four Value Chains (Tomatoes, Rice, Potatoes, Shallots), March 2007.*

USAID (2008), *Improved Road Transport Governance (IRTG) Initiative: Results from October 27 to December 31, 2007,* USAID West Africa Hub, Accra.